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# Four States Establish New Output Total

WITH four of the principal oil states producing more crude than during any similar period in their history, national crude oil production established a new peak last week, passing by 10,328 barrels daily the previous record, made the week ending February 20.

The four states—Texas, Louisiana, Kansas and New Mexico—produced substantially in excess of demand as estimated by the Bureau of Mines. Louisiana and Kansas output was greater than the state allowables. Oklahoma production was down 25,000 barrels daily from the previous week, a temporary development which probably will be corrected this week with a return to an output of more than 600,000 barrels daily.

Available information indicates there is not a current demand for all of this record crude production. The latest government report, for the week ending February 20, shows an increase in crude inventories for the fourth successive week. The gain in stocks for the four weeks totaled 2,363,000 barrels, or 84,000 barrels daily. Practically all of the increase is accounted for by the additions to East Texas storage.

In the same four weeks gasoline stocks increased 6,618,000 barrels, or 236,000 barrels daily. This means that the crude oil and gasoline increases in storage have been at the rate of 320,000 barrels daily. Subtracting the 145,000 barrels of fuel oil and gas oil taken daily from storage during that period there was a net addition to inventories of 175,000 barrels. This figure does not take into consideration the stock changes for the minor refinery products.

**Production 3,308,859**

**Increase 12,009**

There is little apparent concern regarding producing and refining operations and the crude market is as tight as it has been any time this year with predictions of higher posted prices in the near future. In this connection it is claimed that several of the older pools in Oklahoma and other Mid-Continent states which are large suppliers of crude oil will not produce as much next summer as they have been over the past few months. In western Kansas there is need of additional pipe line outlets to take care of the production available from several new pools.

Completion of a well in the Rodessa field extends the proven area to within one-fourth mile of the Arkansas line. Extension wells were brought in and new sands discovered in several pools during the week.

The demand for gasoline is improving with a decline in shipments of furnace oils and other distillate fuels. Gasoline is freely offered in several refining areas and prices have been shaded in a few sales. Residual fuel oils are strong at both coastal and interior points.

## Daily Average Production for Week

| | Mar. 6, 1937 | Bur.Mines Mar. est. | Mar. State allowables | Feb. 27, 1937 |
|---|---|---|---|---|
| Oklahoma City | 131,875 | ..... | ..... | 140,050 |
| Seminole-St. Louis | 88,175 | ..... | ..... | 89,325 |
| Remainder of State | 358,075 | ..... | ..... | 373,625 |
| Total Oklahoma | 578,125 | 590,700 | 620,460 | 603,000 |
| East Texas | 460,398 | ..... | ..... | 455,497 |
| West Texas | 197,746 | ..... | ..... | 190,292 |
| North Central Texas | 99,089 | ..... | ..... | 98,850 |
| Texas Panhandle | 68,697 | ..... | ..... | 75,885 |
| East Central Texas | 111,150 | ..... | ..... | 107,696 |
| Gulf Coast Texas | 316,000 | ..... | ..... | 305,995 |
| Southwest Texas | 106,700 | ..... | ..... | 106,547 |
| Total Texas | 1,359,780 | 1,256,600 | 1,398,514 | 1,340,762 |
| North Louisiana | 71,065 | ..... | ..... | 69,705 |
| Gulf Coast Louisiana | 175,200 | ..... | ..... | 173,400 |
| Total Louisiana | 246,265 | 240,000 | 236,000 | 243,105 |
| Santa Fe Springs | 44,250 | ..... | ..... | 43,000 |
| Long Beach | 61,750 | ..... | ..... | 62,150 |
| Kettleman Hills | 75,700 | ..... | ..... | 79,500 |
| Remainder of State | 402,800 | ..... | ..... | 398,500 |
| Total California | 584,500 | 570,900 | *551,100 | 583,150 |
| Kansas | 187,350 | 178,000 | 186,968 | 183,175 |
| Arkansas | 27,162 | 28,500 | ..... | 27,475 |
| Eastern Fields | 116,800 | 114,700 | ..... | 115,200 |
| Michigan | 34,027 | 30,300 | ..... | 33,133 |
| Southeastern New Mexico | 102,120 | 87,150 | 102,155 | 97,880 |
| Rocky Mountain area | 72,730 | 62,150 | ..... | 69,970 |
| Total United States | 3,308,859 | 3,159,000 | ..... | 3,296,850 |

*Recommendation of Central Committee of California Oil Producers.

## Crude Oil Stocks in United States

(BUREAU OF MINES ESTIMATES)

| | |
|---|---|
| Week ending February 20, 1937 | 287,574,000 |
| Week ending February 13, 1937 | 286,158,000 |
| Week ending February 22, 1936 | 311,461,000 |

# SPARKS FROM THE NEWS

Four states—Texas, Louisiana, Kansas and New Mexico—each produced more crude oil last week than in any previous seven-day period in their history.

Well established in Louisiana and Texas, Rodessa production is now within one-fourth mile of the Arkansas line. It seems likely to become the industry's first major tristate field.

First batch of ethyl alcohol produced at Atchison, Kans., plant. The product of this subsidized operation is to be blended with gasoline and sold as motor fuel in seven states.

Victims of automobile accidents due to poorly maintained roads get little consolation from fact that diversion of gasoline tax funds is responsible for condition of highways.

Mexico getting into the oil business in a big way will not circumscribe itself with many of the governmental restrictions imposed on private oil interests.

Weather conditions are bringing early opening of inland waterways, a factor in the movement of gasoline from winter storage to terminals and bulk stations.

A widespread development of shallow sands, passed up for many years, is under way in the Tulsa area.

Fuel oil, the residue after all the refining has taken place, appears to be the strongest product in the refinery market at this time.

Arguments presented for repeal of federal gasoline and lubricating oil taxes are convincing to everyone except the lawmakers, who are unable to find a substitute which can be so easily and painlessly collected.

Just when natural gasoline prices drop to a point which should invite export movement, tanker rates go up.

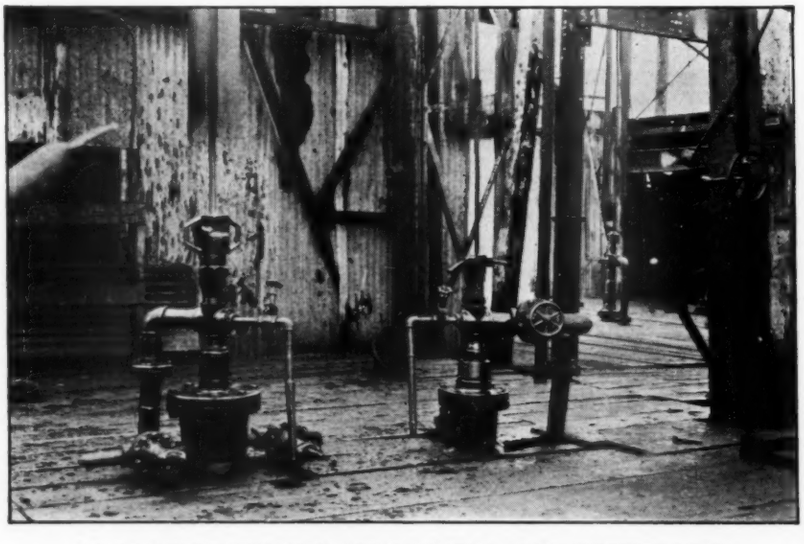
The oil industry, unaccustomed to labor problems, may wake up to find itself handed one by other industries.

Bright stocks, long the backbone of finished lubricants, continue to advance in both domestic and export markets.

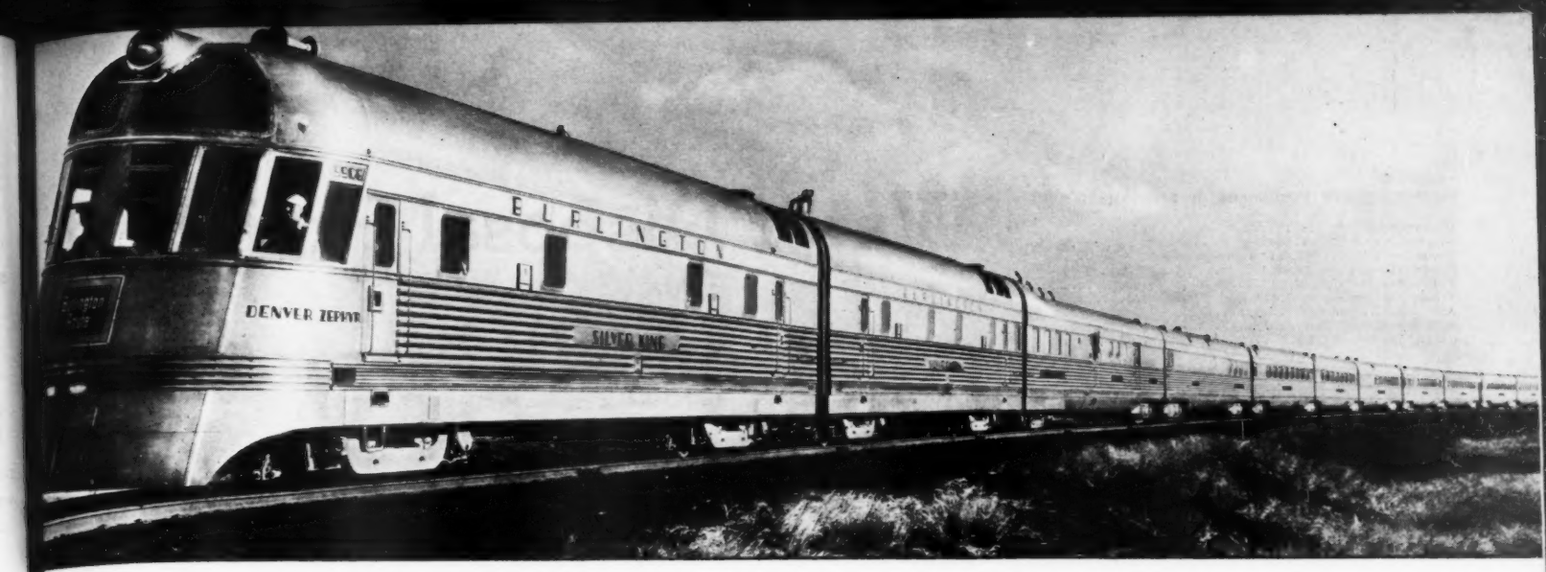
Tourists will be able to go many places this summer in 100-m.p.h. trains powered by engines burning diesel fuels.

The winter gasoline and distillate demand now exceeds maximum motor fuel consumption of summer months, a development responsible for the record crude output of the past few months.

## OPTIMUM IN OFFSETS



***Two wells on the same derrick floor in California. In the background another well is seen on an adjoining derrick floor. They produce from different horizons ranging from 3,300 feet to 8,200 feet***




# Railroad Demand for Diesel Fuel Steadily Increasing

By H. STANLEY NORMAN

NEW YORK, Mar. 9.—Acceptance of diesel powered locomotives to move the passengers and freight loads of American, Canadian and foreign railroads is sweeping to new heights with 1937 apt to surpass all preceding records. Since 1925 when less than 20 diesel locomotives were in service, the trend has been constantly upward reaching an all-time peak of 290 units at the close of 1936.

During 1936 alone there were 75 new diesel locomotives ordered or placed in service by American and Canadian railroads, falling only a few fixtures short of the previous record in 1929. The increase in b.h.p. of diesel engines in service by United States and Canadian railroads reached an all-time record in 1936 indicating that the oil burning type of power unit is gradually filling a larger niche in the heavy duty requirements.

There are now more than 40 crack express trains operating on running schedules up to 100 miles per hour on American and Canadian mainlines. The trend of engine builders points to even faster schedules by more rapid acceleration and sustained speed without undue stress on the power unit. By making acceleration more flexible, engine builders are reducing losses of time occasioned by stops and starts along the densely traveled routes.

Indicative of the trend the Chicago, Rock Island & Pacific Railway Co. has contracted for six diesel-electric trains, some of which will be placed in service next month. These trains are for day service between principal cities, including Kansas City and Minneapolis and Kansas City and Denver. They will take care of a demand for high-speed passenger service. The prime-mover for each of these units consists of a single EMC 16-cylinder, V-type, two-cycle, 1,200-horsepower, diesel engine, directly connected through a flexible coupling to a General Electric 600-volt direct-current generator.

These diesel-propelled trains are not large consumers of petroleum products and will not be in the immediate future. The consumption of fuel oil by steam trains is many times larger. The expansion of the diesel-type train, however, is considered important because it is believed that its use will continue to expand. Its success in the rail field will also tend to stimulate other transportation and industrial applications of diesel power.

Economy of operation is one of the main influences turning railroads to greater use of diesel power units, despite the importance placed on speed by the modern traveler. A typical list of operating costs, with Burlington's Zephyr and a typical steam train used as examples, is produced below.

**BURLINGTON'S ZEPHYR**

| | |
|---|---|
| Maintenance of diesel-electric plant | .0188 |
| Maintenance of train | .0356 |
| Diesel oil | .0141 |
| Lubricating oil | .0108 |
| Train crew's salary | .1709 |
| Train supplies and expenses | .0311 |
| Terminal charges | .0351 |
| Total cost per mile | .3164 |

**STEAM TRAIN**

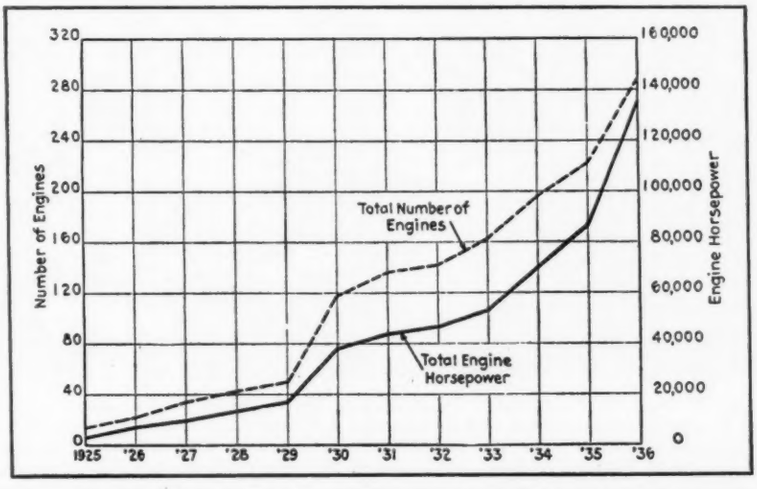
| | |
|---|---|
| Locomotive repairs | .1466 |
| Passenger car repairs | .0080 |
| Fuel | .1190 |
| Water | .0068 |
| Lubricants | .0034 |
| Locomotive supplies | .0019 |
| Engine-house expenses | .0263 |
| Train supplies and expenses | .0468 |
| Crew's wages | .2360 |
| Lounge car attendant | .0077 |
| Terminal expenses | .0375 |
| Total per mile | .6400 |

No small part of the saving in crew salaries possible by the diesel powered trains is made possible by the greater number of paid passenger miles each crew can operate an oil burning unit employing 50 to 75 per cent greater speeds. Diesel engines will consume approximately 200 gallons of fuel per horsepower per year, but the units in railroad service probably will exceed the average by at least a third due to their high speeds and comparatively few idle hours.

Due to the wide variety of services to which diesel locomotives are placed, it is difficult to obtain an average consumption figure. Some switching engines consume 6 to 8 gallons of diesel fuel per hour and are in service from 20 to 23 hours per day. The hourly consumption is considerably higher on the high-speed cross-country passenger trains.

Practically all of the country's important railroads which do not already have one or more diesel express passenger trains in service are awaiting delivery of orders placed during the past six months. There are now at least 15 diesel-electric trains operating on daily schedules in the United States and Canada. There are a greater number of trains named in composite schedules, but there are several duplications since one train actually supports two or more names depending on which direction it is running.

The following is an example of several fuel specifications which has proven satisfactory for this




*Diesel engines in lomocotives, rail cars and streamline trains in the United States and Canada.—(Railway Mechanical Engineer)*

class of power equipment in railroad operation:

| | |
|---|---|
| Flash (min.), °F. | 150 |
| Viscosity (S.S.U.) @ 100° F. | 35–70 |
| Viscosity (S.S.U.) @ 32° F. (max.) | 100 |
| Conradson carbon (max.) | .5 |
| Pourpoint in °F. (max.) | 0 |
| Water and sediment (max.), per cent | .1 |
| Ash (max.), per cent | .02 |
| Sulphyr (max.), per cent | .5 |
| Cetane number (min.) | 40 |

It is desired that the fuel be free from any acid which in contact with any metal will form soap in sufficient quantities to plug up the fuel strainers.

The lubricating oil for the diesel engine used in the Rock Island units is circulated and distributed by means of a scavenger pump, taking the oil from the crankcase passing it through a filter and oil cooler to oil supply tank from which it is taken by a pressure pump, the pressure in the distributing lines being regulated by pressure relief valve which discharges into the crankcase. These pumps are driven directly by the main engine and a device is provided to close the engine throttle in the event of a deficient oil supply.

The following is an example of one of the lubricating oil specifications which has been found to meet the requirements.

| | |
|---|---|
| Saybolt viscosity at 100° F., sec. max. | 1,000 |
| Saybolt viscosity at 210° F., sec. min. | 85–90 |
| Flash, °F. min. | 450 |
| Fire, °F. min. | 500 |
| Pour, °F. max. | 40 |
| Carbon residue, per cent max. | 1.1 |
| Sligh number, max. | 1 |
| Evaporation—5 hrs. @ 150° F. max. | .17 |

This must be a high-grade pure mineral oil and must not be adulterated with any animal or vegetable matter, or with any metallic soaps. It is particularly important that it be entirely free from lard oil in any proportion.

**A gas-oil ratio survey of all wells in the** Rodessa, Tex., field was ordered by the Texas Railroad Commission to give the commission data upon which to base future orders.

# Water Disposal Project at Edmond Is Approved

By PAUL REED

The program for a cooperative water disposal project in the Edmond pool was carried a step further when the Corporation Commission of Oklahoma issued Order No. 11,099 on March 4, granting permission to Continental Oil Co., Mid-Continent Petroleum Corp., Transwestern Oil Co., Amerada Petroleum Corp., Ohio Oil Co. and Stanolind Oil & Gas Co. to install and maintain a water disposal system for the purpose of getting rid of salt water produced with oil by injecting it into the outer edge of the lower part of the structure by gravity, or under pressure, as may be required. The well designated for this injection is a dry and abandoned well, Ohio Oil Co. No. 1 Yeager, NE cor. NW SW section 5-13n-3e, Oklahoma County. In the office of the Corporation Commission it is said this is the first water disposal order ever issued by the state of Oklahoma. At the hearing on February 24, this group of producers was represented by Guy H. Woodward, attorney.

In presenting their case, the oil companies called attention to the fact that the southeastern limits of the pool appear to be defined by dry holes to the Wilcox sand at a depth of from 6,650 and 6,775 feet where salt water was encountered in this horizon. Approximately 500 bbls. of salt water per day is being produced with oil in the pool. This salt water cannot be shut off without shutting in or plugging off oil production. The commission considered the shutting off water at the well "as a waste within said common source of supply," preventing producers in the pool from obtaining the greatest ultimate recovery of oil.

The commission was informed that Ohio Oil Co. No. 1 Yeager had been tested and it had been determined the Wilcox sand would receive water in sufficient quantities not only to dispose of the salt water now being produced but also amounts up to 3,000 bbls. per day. The commission regards the injection of salt water into the sand at the edge of the pool as a factor which will "tend to continue the water drive pressure" in the pool which contributes to causing the wells to flow naturally.

Furthermore, at the hearing it was shown that at the present time the pool produces between 70,000,000 and 80,000,000 feet of gas per day now going to a gasoline plant in the field. The petitioning producers proposed to construct a plant for the purpose of returning residue gas to the formation under pressure. The injection of residue gas into the top of the structure and the injection of salt water into the bottom part of the structure simultaneously are believed to result in a "tendency to maintain and equalize the reservoir pressure in the common source of supply which will aid in the production of oil therefrom and will result in a greater ultimate recovery."

## PETROLEUM ROOM DEDICATED TO SOUTH LOUISIANA SCOUTS ASSOCIATION

LAKE CHARLES, La.—Southwest Louisiana's petroleum industry and the late Harry T. McClain, widely known southern oil operator, who died February 9, have been paid tribute by a permanent petroleum room in the Charleston Hotel, prepared and placed at the disposal of the South Louisiana Oil Scouts Association by Mrs. Harry T. McClain, who is carrying on the hotel interests of her husband. The murals of the room depict scenes of the Port Barre field where Mr. McClain drilled the first well. He was the only honorary member of the oil scouts association.

*Seated in foreground: Malcolm James, Sun Oil Co.; T. K. Wynn, Sinclair Prairie Oil Co.; Neil A. Pereira, Gulf Refining Co.; J. H. Bolender, Humble Oil & Refining Co.; W. H. Brown, Salt Dome Oil Co. Seated in center: Murray Johnson, Gulf Refining Co.; J. G. Josefson, Fulmont Oil Corp.; E. J. Petrie, Pure Oil Co.; Milton Knox, Kirby Oil Co.; Ray Kincaid, Continental Oil Co.; E. M. Baysinger, United Gas Co.; Charles Noble, Noble & Son. Standing: J. A. Bonham, (executive chairman of the scouts), Magnolia Petroleum Co.; Mrs. H. T. McClain; Joe C. Hemphill, (president of the scouts), Magnolia Petroleum Co.; Howell Dennis, Texas Co.; Baker Hoskins, Shell Petroleum Corp.; James S. Kirkendall, (vice president of the scouts), Amerada Petroleum Corp.; E. C. Thomas, Pan-American Production Co.; Stuart Buchanan, Fohs Oil Co.; Porter Savage, California Co.; Gayle Griffith, Superior Oil Co.; Bill Lark, Fohs Oil Co.; W. E. Merriman, (vice president of the scouts), Stanolind Oil & Gas Co.; James M. Lilly, Pan American Production Co.*

*Service station "Hacienda on the Highway"—Huasteca Petroleum Co., Standard Oil Co. (N. J.) subsidiary*

# Nationalized Mexican Oil May Carry Competitive Threat

By H. STANLEY NORMAN

Fears that foreign oil companies will be subjected to increasing operating difficulties in Mexico appeared well founded last week when President Cardenas made himself virtual dictator of the petroleum industry by decree. Creation of the General Administration of National Petroleum from the physical assets of Petroleos de Mexico (Petromex) and the decree dictating its functions, provides the government with an agency through which to function.

Government control of the Mexican industry appears projected on a system of restriction against individual concerns and allowances in favor of the national company rather than through immediate application of expropriation powers. Although the clause specifically stating that foreign concessions would be turned over to the government on their expiration was removed, it was provided the new official agency is to be given all petroleum reserves that may be assigned to it by the executive. By this clause, power to grant concessions exclusively to the government-owned company was altered from a mandatory to a discretionary function of the president. Observers, however, hold the same purposes will be accomplished by the more obscure wording.

### *TO REGULATE MARKET*

Operating conditions may be made more difficult through the decree granting the government company power to regulate the interior market and the exportation of petroleum and products.

The government-controlled company was the only petroleum concern in Mexico to receive a new concession in 1936. All concessions granted to foreign, individual companies were in the form of confirmation on lands previously held. A sympathetic judiciary appears reconciled to "Mexicanization" of the petroleum industry.

In a decision February 27, the Supreme Court of Mexico invalidated Aguila Oil Co.'s title to its 3,875-acre La Concepcion and 2,163-acre San Antonio Coauchapa properties near Minatitlan, state of Vera Cruz, and ordered them returned to the Department of National Economy. The properties were described as two of the Royal-Dutch Shell subsidiary's most extensive holdings. The Supreme Court decision, coupled with advance information on creation of the 100 per cent government owned company, brought vigorous protests from abroad. Official government statements, issued subsequently, declared private foreign companies had nothing to fear.

In last week's decree forming the government company, the purpose was outlined as a move to expand the petroleum industry and some saw a possible conciliatory background, believing private companies may continue to operate their present properties without unreasonable interference and that additional reserves may be obtained by dealing direct with the national company. In this connection, President Cardenas retained exclusive power to remove directors of the government agency and to approve all agency contracts for exploitation of reserves and contracts for loans. The decree gives the president power to execute all kinds of operations and work related to the production, acquisition, transport, refining and distribution of petroleum, natural gas and derivatives.

### *NO LABOR LIMITS*

No provision is made to place the government company under the labor minimum wage and tax laws, although this may be done later. Failure to include minimum wage consideration brought an immediate protest from the Union of Oil Workers who expressed fear they would be considered in the same light as railroad employes who were held by the government to be working for a national organization and therefore not privileged under the laws protecting employes of private concerns.

If the General Administration of National Petroleum is left free of oil labor law provisions, some fear private companies would find their position as government agency competitors unworkable. Among last week's developments was an ultimatum from the workers syndicate that 17,000 employes of private companies would strike in April unless negotiations under way on a general contract law are successfully concluded. The negotiations between employers, employe representatives and government officials have been under way since November when a general strike call was postponed pending conferences. The groups have been in almost daily session since with minor progress reported.

Ten years ago American-owned enterprises in Mexico controlled 77 per cent of the production and about 80 per cent of proven reserves. At the end of 1936, output of American interests had fallen to 34 per cent and their proven reserves to only 29 per cent of the estimated total. The

## AMERICAN ACTION

By HENRY D. RALPH

**WASHINGTON, Mar. 9.—What steps the American government will take to protect American interests is highly speculative, but some oil men believe measures will be taken to protect American production against any possible influx of Mexican petroleum when and if the Mexican government takes over complete production, refining, and transportation facilities. If Mexico does nationalize the industry it would be tax exempt and oil workers would become government employes, with no provision under the minimum wage and other labor laws. With production costs so lowered, imported Mexican petroleum might seriously affect some of the independent American producers, as well as foreign corporations still operating in Mexico.**

production of British interests has increased from 18 per cent in 1927 to 62 per cent in 1936 and British-owned proven reserves have increased from 19 to 64 per cent of the total. During the 10 years Mexican-owned interests in proven reserves have increased from about 2 to 7 per cent of the whole.

Present reserves in the proven areas are estimated at about 550,000,000 bbls., of which British interests control approximately 350,000,000 bbls., American interests 162,000,000 bbls., and Mexican interests about 38,000,000 bbls. The British share in the Isthmus of Tehuantepec fields is near 100 per cent and in the Poza Rica area about 85 per cent with the productive limits undefined. Most of the American-owned proven reserves are in the old Panuco and South field (Golden Lane), which are many years past their peak. Normal depletion may further restrict the American-owned percentage of proven reserves, unless new lands may be acquired.

In view of the government's indicated policy with reference to new leases, about the only prospect left open to private companies is to deal by development contract with the national company. Even if this method is possible, the restrictions which may be imposed on exports, internal marketing and the handicap of competing against a strike-free entity may be uneconomical.

British-owned reserves in Mexico are of such magnitude it is believed Great Britain will protect them to the limit. British interests produced over 24,000,000 bbls. in Mexico in 1936, or about 9,000,000 bbls. more than the English share of Iraq output.

# Arkansas Proration Law Presented in Legislature

By MITCHELL TUCKER

LITTLE ROCK, Ark.—An adequate proration law for the state of Arkansas is promised after the introduction of similar bills in both the house and senate of the Arkansas legislature now in session at Little Rock. Such a bill seems especially desirable just at this time when flush production is discovered in the North Rodessa field one-fourth of a mile from the Arkansas state line, which may possibly extend over into the southwest corner of Miller County, Arkansas. At the present time no fields are prorated in Arkansas and Section 29, of the proposed bills, states an emergency exists due to the fact that the existing laws determining the authority of the state and the Arkansas Board of Conservation to conserve the oil and gas resources do not sufficiently define such authority to prevent properly waste of natural resources.

In all important particulars the bill conforms rather closely to the New Mexico, Texas, and Louisiana proration laws, although in its present form no authority is granted for placing the allocation for any pool upon an acreage or bottom-hole pressure basis such as the Rodessa field is now operating under in both Texas and Louisiana. Senate Bill 423 has been referred to the senate committee on conservation of natural resources, and House Bill 532 (similar to Senate Bill 423) has been referred to the house oil and gas committee, where important changes or adjustments may be made.

The Arkansas Conservation Commission is to consist of five members to be appointed by the governor for terms of two years each. The commission is to establish head offices in the city of El Dorado. The governor may, upon recommendation of a majority of the commission, appoint one chief conservation agent and two or more assistants, if needed. The commission will have jurisdiction and authority over all matters relating to the conservation of crude petroleum, natural gas, and products in the state, and of the enforcement of all provisions of the proration law.

Included in the power given to the commission is authority to collect data; to make investigations and inspections; to examine properties, leases, papers, books and records; to examine, check, test and gauge oil and gas wells, and tanks, plants, refineries, and all means and modes of transportation of equipment; to hold hearings; to provide for keeping of records and making of reports; to limit and prorate production of crude petroleum and natural gas; to require, either generally or in particular areas, certificates of clearance or tenders in connection with the transportation of crude petroleum or any product, or both such crude petroleum and product.

Further authority granted the commission in part of Section 10 is enumerated as follows:

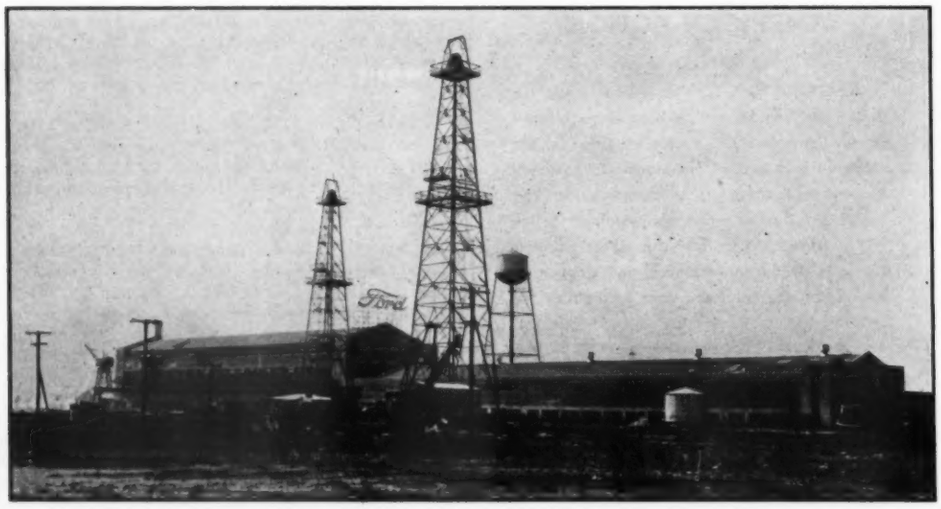
1. To require dry or abandoned wells to be plugged in such a way as to confine the crude petroleum, natural gas and water in the strata in which they are found, and to prevent them from escaping into other strata;
2. To prevent crude petroleum oil, natural gas and water from escaping from the strata in which they are found into another stratum or other strata;
3. To require reports showing locations of all oil and gas wells, and for the filing of logs and drilling records or reports;
4. To prevent the drowning by water of any stratum or part thereof capable of producing oil or gas, or both oil and gas, in paying quantities, and to prevent the premature and irregular encroachment of water, or any other kind of water encroachment, which reduces or tends to reduce the total ultimate recovery of crude petroleum or natural gas, or both;
5. To prevent fires;
6. To prevent "blowouts" and "caving" in the sense that the conditions indicated by such terms are generally understood in the oil business;
7. To require wells to be drilled, operated and produced in such manner as to prevent injury to neighboring leases or properties;
8. To identify the ownership of oil and gas producing leases, properties, wells, tanks, refineries, pipe lines, plants, structures, and all transportation equipment and facilities;
9. To require the operation of wells with efficient gas-oil ratios, and to fix such ratios;
10. To fix the spacing of wells.

Provision is made granting the commission authority to allocate production among the various fields whenever necessary to prevent waste. Such allocation is to be made on a reasonable basis, giving, if reasonable under all the circumstances, to each pool with small wells of settled production, an allowable production which will prevent the general premature abandonment of the wells in the field.

As provided in many other state proration laws, the pooling of properties or parts therof is to be permitted, and, if not agreed upon, may be required by the commission in any case when the smallness or shape of a separately owned tract would, under the enforcement of a uniform spacing plan, deprive the owner of such tract of the opportunity to recover his just and equitable share of the crude oil in the pool. Further provisions are made for controlling well spacing in the interest of conservation and equity.

Complete provision is made for the control and disposal of "illegal oil," which is defined as crude petroleum oil produced in excess of allowable. Full provision is made for public hearings on matters covered in the bills, and all exception thereto.

Authority would be granted for recognizing the U. S. Bureau of Mines data, or any bureau or agency under an interstate compact to which the state of Arkansas is a party, in considering what is rightfully a reasonable market demand for crude petroleum.




**OIL WELL ON ASSEMBLY LINE**—*Rigging up to drill on Ford Motor Co. assembly plant property, Wilmington, Calif.*

## Spacing at Olympic

The Oklahoma Corporation Commission has ordered 10-acre spacing for the North Olympic pool, Okfuskee County, including sections 7, 8, 17 and 18-10-9. The order was issued on petition of J. B. Sledge and other operators in the pool. Ten-acre spacing is prevalent throughout the Olympic field.

## Magnetic Storm

Tucson, Ariz., observatory of U. S. Coast and Geodetic Survey report a moderate magnetic storm started at 1 a.m. (C.S.T.) March 5 and lasted about 17 hours. The telegram follows:

"Moderate storm lasting 17 hours began fifth. One. Central time."

# New Laws Regulating Industry Will Affect the Oil Business

By HENRY D. RALPH

WASHINGTON, D. C., Mar. 8.—President Roosevelt's proposal to reorganize the supreme court is delaying congressional action on all other matters, and a long session is in prospect. Enactment of such measures as the Connally "hot" oil bill and scores of others is being slowed down because members of the house and senate are finding a large portion of their time given over to discussion and correspondence regarding the court. Observers in Washington are of the opinion the president eventually will be largely victorious, even though he is forced to accept some compromise which will be face-saving all around. He may not be given the power to appoint six additional justices, but the opinion is practically unanimous some method will develop by which he can appoint enough justices to swing the balance to the liberals.

### NEW BUSINESS REGULATION

That new federal laws to regulate business will be pressed as soon as the supreme court obstacles are removed was made plain by the president in his victory dinner speech. Further confirmation came when the president submitted to congress an analysis of the accomplishments and failures of the NRA with the remark that "it will point the way to the solution of many vexing problems of legislation and administration in one of the most vital subjects of national concern."

There was no reference to the NRA petroleum code in this summary which clearly pointed the way to a revival of the code system provided some way can be found to reconcile it with the interstate commerce clause of the constitution. This obituary of the Blue Eagle declared the chief fault of the NRA was an attempt to include too much in too little time. However, it stressed the social benefits of minimum wage and maximum hour regulations, provided these are not carried to excess. The report recommended that labor regulations and trade practices not be covered by a single code and not be enforced by the same agency; that trade practice rules should originate with business interests rather than with government officials but should not be permitted to go into effect until carefully examined by government economists; that industry groups be given no power to interpret and enforce regulations affecting themselves; and that there are no blanket exemptions from the antitrust laws.

The attitude toward business was further disclosed in the publication of the Federal Trade Commission's report on agricultural income. It was largely a castigation of big business and of middlemen in general, and the recommendations made regarding processors and distributors of agricultural products might easily be applied to the oil business. The report bristles with hostility to bigness in business, concentration of economic power, large corporation profits and salaries, mergers, combinations, agreements and understandings on prices and trade practices.

Drastic tightening of the provisions of the Clayton antitrust act relating to mergers was recommended by the FTC, and if enacted this legislation would apply to the oil industry and all others. At present the law does little more than prevent one corporation from acquiring stock control of a competitor where it can be proved this restrains competition. The commission recommends tightening the law in four respects: (1) Prohibit direct or indirect acquisition of either control or assets of a competitor where the effect may be to lessen competition; (2) eliminate the present legal necessity for technical proof that competition will be substantially restrained; (3) prohibit acquisition of control of a competitor where the combined assets or output following the merger would exceed a certain percentage of the entire industry; (4) prohibit acquisition of another enterprise, even in another line of business, and whether competitive or not, by a concern whose total assets exceed a certain figure. Obviously such a tightening of the Clayton act could be used to prevent the further growth of major integrated oil companies.

Not unrelated to these developments is the report that the Department of Justice is planning strict enforcement of the antitrust laws and is reorganizing its antitrust division under Assistant Attorney General Robert H. Jackson in preparation for a series of actions against industries.

The action of the big steel companies in adopting a 40-hour working week and increasing wages will strengthen the demand for universal adoption of the 40-hour week. It will also strengthen the unions affiliated with the Committee for Industrial Organization, not only in securing recognition from employers but in their fight for supremacy over the American Federation of Labor. The oil industry has been named as among those on which the C.I.O. will make a concerted drive in the very near future.

Supporters of the Walsh-Healey government contracts act give the law credit for forcing the change upon steel. This will make it practically impossible for any other industry to obtain any exceptions to the act, and makes it much less likely congress will modify the law through amendments.

### NEUTRALITY

Drastic restriction, if not prohibition, of the exportation of oil in the case of a foreign war is probable under the neutrality legislation congress is expected to pass. The senate has already passed the Pittman resolution and the house is about to take up the McReynolds resolution which does not differ greatly in its possible effects on oil. Both provide that in the case of a foreign war, either international or civil, the president must proclaim the fact and it shall thereafter be unlawful to export arms, ammunition, or implements of war to the countries concerned. While the president would have the power to define such commodities it is unlikely oil would be included in this category. However, both resolutions provide the president may, if necessary to preserve the peace or neutrality of the United States, issue a second proclamation restricting exports of other commodities. The Pittman resolution would permit the president to embargo sales to belligerents of commodities useful in conducting the war, which in all probability would include petroleum and its products, and would also require that no other articles of any sort whatever could leave an American port destined for the use of the warring nations until all American interests had been separated from the goods. This is the so-called "cash and carry" principle. The McReynolds resolution does not differ very materially except it would give the president more discretion in that he could name the commodities to which the cash and carry limitations would apply.

*Department of the Interior Building in left foreground.—(Harris & Ewing)*

# Study of Old Fields May Aid in Discovery of Fresh Reserves

By W. V. HOWARD
Geologist, Wright Building, Tulsa

It has been shown in preceding articles (The Oil and Gas Journal, February 4, February 11 and March 4) that one method of attack on the problems of discovering new pools is as follows:

1. Collect all available data on known producing horizons.

2. Determine the characteristics that govern the accumulation in barren areas in the same horizon.

3. Prepare detailed paleogeographical maps on shore lines and paleogeological maps on unconformities.

4. From these maps predict the extensions of the pay into new areas with particular reference to structural trends which cross these extensions. An example of the possibilities of this work is shown by two recent discoveries in Illinois. The Carlyle and Sandoval fields lie close to the 500-foot isopach in the Chester and in a lower sand. As the Chester overlaps older formations it may be presumed these fields are close to the shore line of these sands. The Bartelso pool, discovered in the spring of 1936, lies along this isopach to the southwest of Carlyle, and the Adams well, brought in on February 1, lies to the north-northeast of Sandoval near the same isopach.

In 1936 Anderson & Kerr opened up a pool in Cooke County, Texas, on the wedge-edge of the Strawn (?) below the Post-Pennsylvanian unconformity. It forms a very important point on a paleogeological map on this unconformity from which extensions may be projected after further drilling.

### PETROLIFEROUS AREAS OF THE UNITED STATES

The accompanying map shows the distribution of known oil fields with reference to major structural features.

Taking the major areas in order from east to west, we have a great deal of information on which to build. In the following summaries unconformities and shore lines have been deliberately over-emphasized as compared to structural control.

1. Atlantic Coastal Plain.—Oil Development, none.

Possibilities: Unfavorable so far as is now known.

There are, however, numerous uplifts and subsidences with lateral variation of sediments which may give rise to small accumulations. The most important structural trends are NW-SE structures which subdivide the area into more or less separate basins. Of these the most important is in South Carolina, where the barrier makes correlation between Georgia and North Carolina difficult.

2. Florida.—Oil Development, none.

Possibilities: Numerous unconformities in the section are the most favorable evidence for future production.

3. Appalachian Basin.—Oil Development: Oil has been produced from the Devonian, Mississippian and Lower Pennsylvanian from multiple pays such as would be found in a slowly filling basin. Gas has also been found in a shore line of Lower Silurian age in eastern Ohio.

Possibilities: Most of the interest in this area is concentrated in secondary recovery from partially depleted sands. There is, however, considerable wildcatting for deeper pays and also in extending known pays. Important possibilities exist in the Oriskany (L.Dev.) and Newburg (Sil) sands, both of which produce gas.

4. Cincinnati-Nashville Arch.—Oil Development: The greater part of the production comes from the Trenton (Ord) in Ohio and Indiana and from the 'Corniferous' (Dev) in Kentucky. Both of these reservoirs are porous limestones on the flank of uplifts and thus represent unconformity production.

Possibilities: Since production is not on structure, there are good possibilities for further development in porous beds on the flank of the main structures. They will probably be small. Tennessee and northeastern Alabama have shown disappointing results up to the present time.

5. Michigan Basin.—Oil Development: Like the Appalachian Basin, Michigan is a basin which was slowly filled by oscillating seas. To date the most important production has been unconformity production from the top of the Traverse and Dundee (Dev) limestones with gas and some oil in sands of Mississippian and Pennsylvanian age.

Possibilities: The fact that new discoveries in 1935 and 1936 added an estimated 70 per cent to Michigan's reserves as of January 1, 1935, is sufficient indication of Michigan's possibilities. The best Dundee production to date has been along a NE-SW porosity trend where it is intersected almost at right angles by structural trends. Drilling to the southwest has picked up other pays. The shore line type of production from strays has been found largely in areas where Dundee production was being sought. With the increase in pools in upper pays an approach to the multiple sand shore line production of the Appalachian Basin can be anticipated.

6. Illinois Basin.—Oil Development: The basin can be considered to be of Post-Mississippian lime age and extends to the south into northwest Alabama and northeast Mississippi. The greater part of the production to date has been from wedge-edges or shore lines in the Lower Pennsylvanian and Upper Mississippian (Chester) particularly along structural trends. Unconformity production has also been obtained from limestones of Mississippian, Devonian, Silurian and Ordovician age.

Possibilities: The only fields recently found in this area have been of the same types. The lack of relation between structures and production has long been known in Kentucky. Whether drilling on minor structures in Illinois will confirm this is not known, but the wedging out of pays from south to north will undoubtedly be of major importance in localizing new production.

7. Eastern Gulf Coast.—Oil Development: Unimportant.

Possibilities: Although not encouraging, there would seem to be good possibilities in a section which resembles some of the Texas Gulf section so closely.

8. Eastern Mid-Continent Basin (Post-Mississippi Lime)—Oil Development: Important in eastern Oklahoma and southeastern Kansas where the production comes from multiple sands near shore lines.

### POSSIBILITIES NOT EXHAUSTED

Possibilities: Much of the activity in this region is concerned with secondary recovery, but the recent discovery of South Burbank and of the Naval Reserve pool shows that the possibilities of even closely drilled areas are not exhausted. In the southern part of the area, Mississippian and Pennsylvanian sands are being found productive in increasing amounts as the search for pre-Mississippian production extends to the north and east of the Seminole area. These conditions again duplicate those in the Appalachian Basin and point to the great possibilities of searching for and extending near-shore sands. Whether production will extend north from eastern Kansas into central Iowa is not known, but if so, it will probably be of the shore line type.

9. Western Mid-Continent Basin (Post-Mississippi Lime)—Oil Development: During the past few years there has been important development in western Kansas leading to the discovery of numerous pools in limestones of Pennsylvanian age, namely—the Oswald, Kansas City and Topeka. This is probably largely unconformity production.

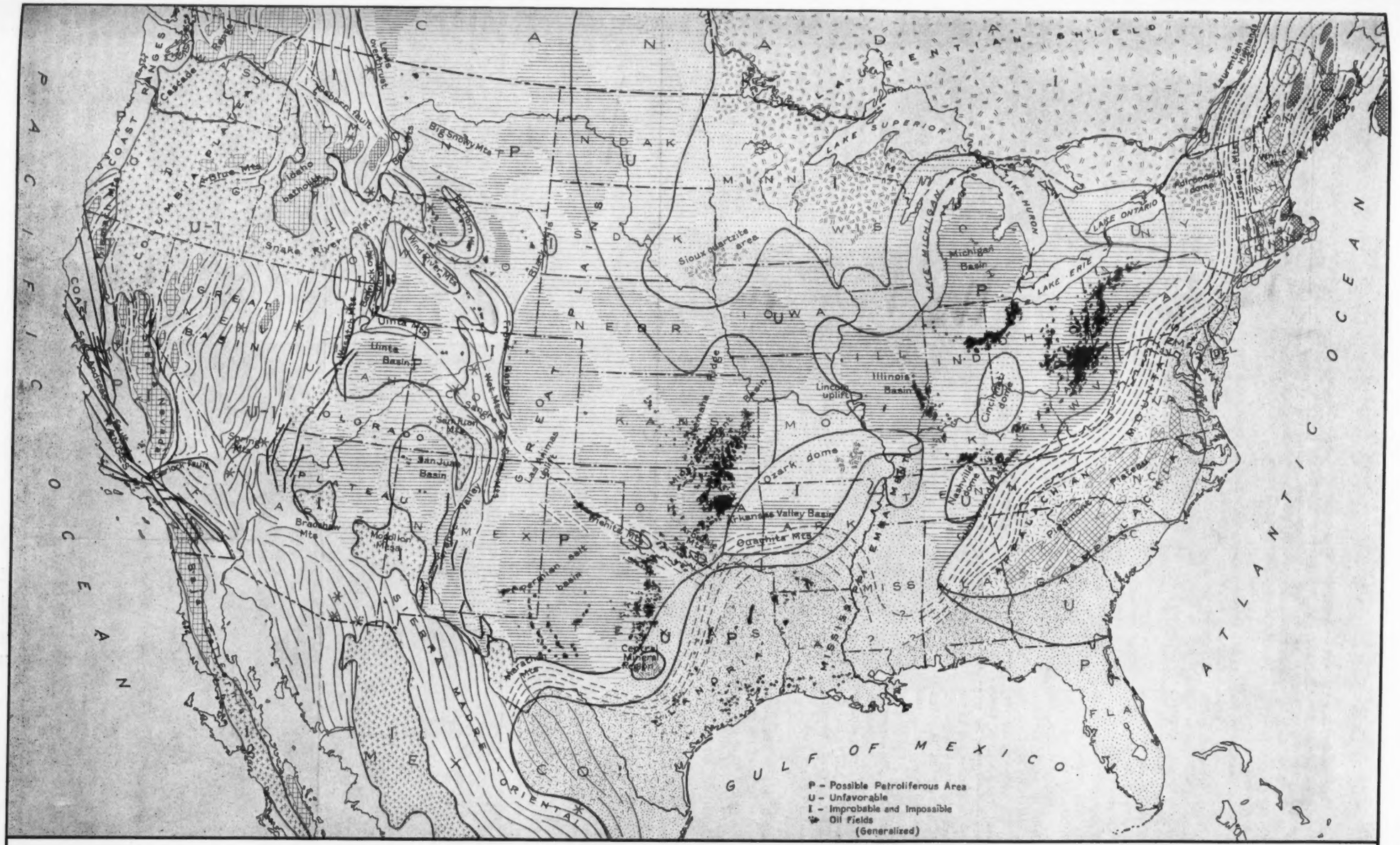
Possibilities: As in Michigan, the activity in Kansas is a measure of the possibilities of the area, although the search is mainly for pre-Pennsylvanian production. Whether the pays will extend into Nebraska or into the deep basin of Oklahoma cannot be predicted, but there would appear to be no reason why they should not.

10. Mid-Continent Basin (Pre-Mississippian) Oil Development: This area is one of the leading sub-unconformity areas known. In many places, the pre-Pennsylvanian unconformities have beveled off the upper formations and have exposed Ordovician pays immediately below the Pennsylvanian. This or other unconformities have been important in developing proper reservoir conditions in the Chat, Hunton, Viola, various members of the Simpson, and the Arbuckle or Siliceous lime.

Possibilities: Especially in Kansas, fields have been brought in in such abundance during the past few years that the future of this region is assured for many years. The multiplicity of Simpson pays indicates the presence of

**TABLE 1—PAST PRODUCTION AND KNOWN POSSIBILITIES**

| | | Past production | Known reserves | Indicated possibilities: Unconformity | Indicated possibilities: Shore line |
|---|---|---|---|---|---|
| 1. | Atlantic Coast | Nil | Nil | (?) | Small |
| 2. | Florida | Nil | Nil | Small | ..... |
| 3. | Appalachian Basin | Very great | Great | Small | Medium |
| 4. | Cincinnati-Nashville | Great | Medium | Medium | ..... |
| 5. | Michigan Basin | Medium | Medium | Medium | Medium |
| 6. | Illinois | Great | Medium | Small | Medium |
| 7. | Eastern Gulf | Nil | Nil | (?) | Small |
| 8. | Eastern Mid-Continent | Great | Great | Small | Great |
| 9. | Western Mid-Continent | Medium | Great | Great | Medium |
| 10. | Mid-Continent (Pre-Mississippian) | Very great | Great | Very great | Very great |
| 11. | Arbuckle-Wichita | Great | Great | Medium | Great |
| 12. | Western Gulf | Very great | Very great | Very great | Very great |
| 13. | Central and West Texas | Very great | Great | Great | Medium |
| 14. | Colorado | Medium | Medium | (?) | Medium |
| 15. | Montana | Medium | Medium | Medium | Medium |
| 16. | Rocky Mountain | Great | Great | Medium | Medium |
| 17. | California | Very great | Very great | Great | Very great |




## MAP OF THE UNITED STATES SHOWING PRINCIPAL STRUCTURAL FEATURES

EXPLANATION

TREND LINES IN FOLDED AND FAULTED STRATIFIED ROCKS

BATHOLITHS

Late Cretaceous and early Tertiary (Laramide orogeny)

* Areas of known overthrusting

Late Jurassic or early Cretaceous (Sierra Nevada orogeny) *(Differentiation from Cordilleran structure schematic)*

Mississippian to Permian (Includes Appalachian orogeny) *(Triassic structures and Appalachian structures in areas of crystalline rocks not shown)*

Chiefly Ordovician to Devonian (Taconian and Acadian orogenies) *(Differentiation from Appalachian structures schematic)*

Tertiary and Quaternary faults in Coast Ranges and Colorado Plateau *(Faults in Great Basin not shown)*

Tertiary lava flows in Cordilleran province

Atlantic and Gulf Coastal Plains *(Cretaceous and younger deposits)*

Pre-Cambrian crystalline rocks of Appalachia and Llanoria. *(Hinterlands of Appalachian and Ouachita structures. Areas within folded regions omitted; some infolded Paleozoic rocks included)*

Pre-Cambrian crystalline rocks exposed in the Laurentian shield and the southern part of the central stable region

Positive areas in the central stable region *(Broken lines indicate higher portions of uplifts)*

Negative areas in the central stable region

Base map from Guide Book No. 28 XVI International Geological Congress.

shore line conditions in a pre-Viola basin. If so, this area will repay careful investigation more than almost any other because of the rich yield from Simpson sands.

11. Arbuckle-Wichita Uplift.—Oil Development: The region embraces southern Oklahoma, north central Texas and the Texas Panhandle. Numerous structural trends break it up into a great number of basins in which near shore accumulation has been important. This includes Deese and Dornick Hills production in Oklahoma, Permian and Pennsylvanian (mainly Cisco) production in north central Texas and Permian production in the Panhandle. The last named is in part shore line and in part unconformity production.

Possibilities: During the past few years, development along these trends has extended from North Texas into Foard County to the west and Jack and Cooke counties to the east and discoveries have also been made in southern Oklahoma. Further development would result from detailed studies of pays, but this would prove very difficult because of the great variation in these sediments. There seems to be no reason why this belt should not continue its extension as far as the Panhandle as well as below the Cretaceous deposits to the east. Deep pays found in Healdton and recently in Fox indicate the probable extension of the pre-Mississippi lime pays into this area.

12. Western Gulf Coast.—Oil Development: This region consists of four main subdivisions, the Mississippi embayment, the East Texas embayment, the Rio Grande embayment, and the Coastal strip. It produced nearly 40 per cent of the country's oil in 1936.

### *TRAPS*

The bulk of the production lies on the flank of highs where oil is trapped at or near old shore lines or below unconformities. Other traps are salt domes which have bowed up or pierced oil-bearing beds, thereby causing accumulations, along faults and in weathered volcanic plugs.

Possibilities: As many sands appear to be blanket sands which produce on structure, geophysical work will continue to be important in this area. From the point of view of shore line and unconformity development, it is important to note that the Eocene pays associated with shore line production in the Rio Grande embayment are being extended into the salt dome area along the coast to the east. In the East Texas embayment and its extension into northwestern Louisiana new sands are proving productive as in Rodessa and Talco so that this area will provide a starting point for extension of prospecting in these pays into the deeper parts of the basin.

13. Central and West Texas.—Oil Development: In this region production has been extended into the basin mainly from two highs, the Bend Arch and the Fort Stockton high, and its extension into Lea County, New Mexico. In the eastern area production is mainly of the near shore multiple sand type while in the west it is unconformity production from Permian limestones. There is minor unconformity production on the Bend Arch and wedge-edge production in West Texas.

Possibilities: The steady advance of discoveries into the basin and to the north will undoubtedly continue. It is, at present, hampered mainly by lack of systematic correlation of beds within and above the Big Lime. Deep-seated Ordovician production points to the extension into West Texas of the pre-Mississippi lime, Mid-Continent type of field.

14. Colorado Basin—Oil Development: A small amount of oil has been obtained from Upper Cretaceous sands and shales.

Possibilities: The shale production is particularly interesting in that it promises near shore production from sands of the same age near the flanks of the basin.

15. Montana Basin.—Oil Development: Relatively small quantities of oil have been obtained from numerous horizons in the Upper Cretaceous and Jurassic with unconformity production from the Madison (Mississippian) lime.

Possibilities: The finding of shows of oil in the Madison near the North Dakota line point to the possible extension of this pay throughout the area. As in Colorado, near shore sands have proved encouraging.

16. Rocky Mountain Basins—Powder River, Big Horn, Wind River, Uinta and San Juan.

Oil Development: Of minor importance except on the Salt Creek anticline. The basin pays range from Jurassic through Upper Cretaceous and the subbasin pays from Pennsylvanian to Permian.

Possibilities: In these, as in the Colorado and Montana basins many structures are still undrilled. Prospecting on structure will probably continue for some time before unreflected fields are sought.

17. California.—Oil Development: In the western area production is localized in small basins opening out on the Pacific. In the San Joaquin Valley, production is near the sides of the south end of the basin on wedge-edges and on parallel folds.

Possibilities: The enormous thickness of California pays promises much increased production from deeper pays in producing fields when drilling technique makes it possible. Prospecting in California will continue to be controlled by structure for some time, with the probability that increased knowledge of sand conditions will give rise to the successful search for much shore line production.

Past production and known possibilities in the several areas mentioned above are summarized in Table 1.

As the table shows, much of the production listed under either "unconformity" or "shore line" has structural control and was located by drilling on structure. Much of the same type will continue to be found by drilling structures. It is of great importance to remember that as time goes on the structural control of the search for oil will be increasingly small and that now is the time to pay more attention to paleogeography if we are not going to find that within a very few years we shall be depleting our reserves at a rate above that of the discovery of new reserves.

### *JOURNAL TABLE*

If The Oil and Gas Journal's table of discoveries for 1935 and 1936 (page 37, January 28, 1937) is modified to exclude extensions (either lateral or deep) of producing fields, it would show that of the 2,404,531,000 bbls. of newly discovered reserves, 328,009,000 bbls. were from extensions (either lateral or vertical) of old fields. This would have been found by normal development processes. Considering only new fields, there was an excess of production over discoveries of 3,212,454 bbls. during the two years. Thus, during the past two years, with major discoveries at Monument, Talco, Rodessa and Anahuac, new fields have barely kept abreast with production, and it is estimated that demand will continue to increase. Of the major discoveries Monument is an unconformity pool and the others are of the near shore type.

The importance of structure in localizing production cannot be denied, but prior to the development of structure there was concentration of oil or of some materials in a regional trap formed either by deposition or erosion of potential reservoir rocks. Later structural movements concentrated the oil in pools. Without the original concentration, structures are dry. The fact that so many structures have been productive indicates the great number of traps. The search for these traps in unreflected structures has already yielded sufficient results to demonstrate the advisability of carrying it on in a systematic manner, and the sooner producers follow the lead of a few progressive companies who are already doing so, the less their discoveries will cost.

**REDUCING EXERCISE**—*Women workers in Soviet oil fields get plenty of it.—(Pictures, Inc.)*

## Controlling Nature's Fury

"Controlling Nature's Fury," a motion picture, was presented Tuesday evening at the Chamber of Commerce, Tulsa, by C. P. Parsons, vice president, Halliburton Oil Well Cementing Co. The presentation was sponsored by the Purchasing Agents Association of Tulsa. Burning oil and gas wells were shown in color, and Mr. Parsons gave a nontechnical explanation of the causes of blowouts and fires and the methods of killing them.

## Pawnee Lease Sale

Oil and gas leases on 22 tracts, comprising 966.59 acres of land near Tonkawa, Kay County, will be offered for sale at the Pawnee Indian Agency in Pawnee, March 12, according to Lem A. Towers, superintendent. Sealed bids will be received at the agency until noon. The acreage is in Townships 25n-1e and 25n-2e.

# Deepest Gulf Coast Producer Completed at Old Ocean

By F. L. SINGLETON

HOUSTON, Tex.—The development of commercial production from 10,000-foot horizons was extended to the Texas Gulf Coast the past week by the completion of Harrison & Abercrombie No. 3 Bernard River Land & Development Co. at the Old Ocean field in southwestern Brazoria County. Bottomed at 10,427 feet, production was obtained from a screen setting made in 30 feet of sand at 10,263-93 feet. While the well continues to clean itself of wash water, it is flowing an estimated 15 to 16 bbls. of 50-gravity oil per hour under a tubing pressure of 3,750 pounds.

This completion extends the field approximately 2,000 feet west and opens the third producing sand on this deeply seated structure which has two wells producing from 8,600 feet and one from 9,963 feet. No. 3 Bernard topped the sand at 10,263 feet and cored hard and soft sand showing oil to 10,293 feet. From this depth to the bottom the formation consisted of shale breaks and hard sand which had to be drilled with rock bits.

The well was spudded November 10. A 20-inch surface hole was drilled to 44 feet where 20-inch conductor pipe was cemented. After a string of 13⅜-inch casing was cemented in an 18-inch hole at 1,268 feet, a 12½-inch hole was carried to 6,070 feet where a protection string of 9⅝-inch casing was cemented with 300 sacks. The hole was reduced to 8⅝ inches to 10,004 feet where a string of 7-inch casing was cemented with 400 sacks and a 6⅝-inch hole was carried to bottom. The last 4,300 feet was flush-joint, 28-pound pipe while the balance was speed tite 26-pound.

The control hook-up consisted of a 6,000-pound test manually operated blowout preventer with two 6,000-pound test gate valves, one above and one below the preventer, installed on the 7-inch casing to permit running screen and liner with safety. As an added precaution, a smaller type of christmastree having two choke outlets was installed at the flow line which could be used to bleed off some of the pressure while circulation was being established with two compounded slush pumps of 20-inch and 18-inch sizes. It was not necessary to use this second tree.

A total of 214 feet of screen and liner was run in and bottomed at 10,424 feet which was sealed off from the 7-inch production string at 10,004 feet. Tubing was swung and was sealed off from the 5-inch liner at approximately 9,910 feet. A heavy-duty 6,000-pound test christmastree was installed above the blowout preventer, which was left on the well, and washing began after 500 feet of fresh water was spotted in the hole, which was followed by a column of 11½-pound mud and the well started flowing under a pressure of 3,350 pounds, which at the end of the week had built up to 3,750 pounds.

To prevent the separator and flow line from freezing a steam heater has been placed around

*General view of separator hook-up showing regulators and relief valves to reduce pressure*

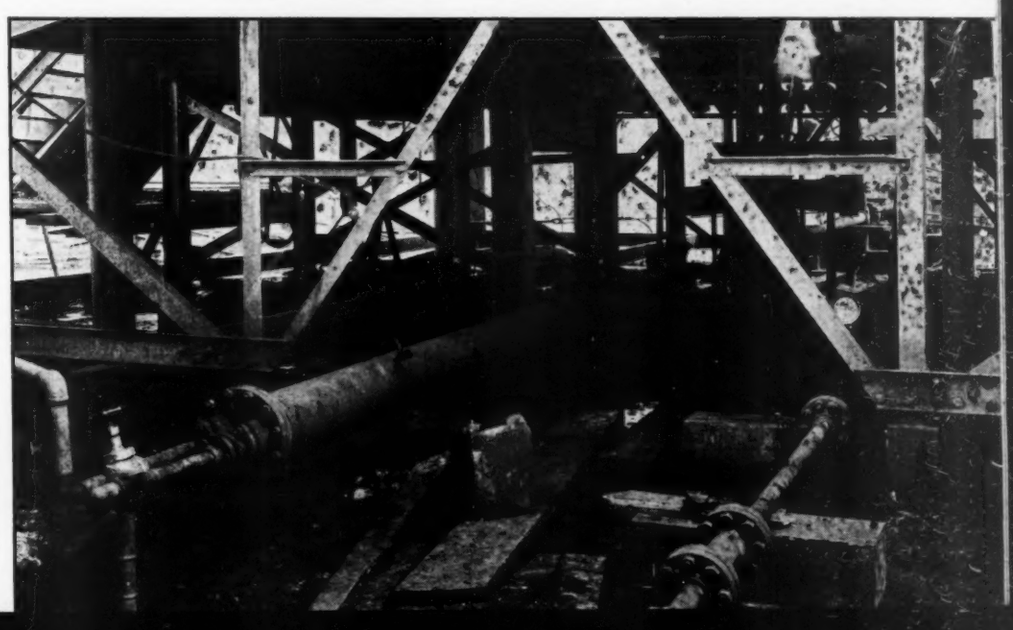
the flow line at the well and the well pressure of 3,750 pounds is reduced to 40 pounds by a series of five regulators and back-pressure valves connected at the 500-pound working pressure separator, about 2,000 feet from the well. This method of dropping the well pressure will be changed as soon as the well cleans itself of wash water. It will be produced through a series of five graduated chokes installed on the flow line at the well which will reduce the pressure at the well to 775 pounds.

Harrison & Abercrombie benefited considerably by their experience in the recent completion of No. 1 Armstrong. In drilling this well, the operators were not aware of the high pressure encountered and many changes had to be made in their original completion methods. After this well tried to blow out in the 9,900-foot sand, the light equipment and all the control units which were 3,000-pound test were removed and replaced with 6,000-pound test units. However, this well is now being satisfactorily produced under a working pressure 3,350 pounds. The flow lines are equipped with two 26-foot sections of steam heaters and the production is being handled by one 500-pound separator compared to two 500 to 1,000-pound working pressure separators required at the time of completion. Steam for the two heaters is supplied by three 72-horsepower boilers.

Old Ocean was discovered in 1934 with completion of No. 1 Bernard River Land & Development Co., from 17 feet of sand bottomed at 8,651 feet. No. 2 Bernard, due north, topped the same horizon at 8,643 feet and was completed at 8,647 feet. Although these two wells continue to make their allowable, they are flowing a large percentage of salt water disposed of in an earthen reservoir. These wells indicated production from this sand may be short lived and were instrumental in the 9,900 and 10-foot wells being drilled.

Production is from the Frio sand found to overlie the structure in a uniform condition. Oil from the 8,600-foot sand is 68 gravity, while from the 9,900- and 10,000-foot levels gravity is 54 and 50 degrees, respectively. The color of oil from the deepest well is light blue, while that from the other two sands is slightly yellow.

*Showing steam heater on flow line at left and series of graduated chokes on flow line at righ*



# *Comprehensive Program Planned for W.P.R.A. Meeting at Hot Springs*

A series of prepared papers and informal discussions which will include all phases of refining from the time the crude oil leaves the well until the finished gasoline enters the motorist's car, will form the technical section of the program for the annual meeting of the Western Petroleum Refiners Association at Hot Springs, Ark., April 26, 27 and 28. The technical program, announced by the committee headed by Emby Kaye, of the Skelly Oil Co., is the most comprehensive ever attempted by the refiners association.

Two general methods of removing salt from crude oil before it is processed will be discussed in prepared papers and enlarged upon by discussion from the floor. The subject of reforming as a method of manufacturing high-octane gasoline without the use of lead will be discussed by two authors, with emphasis on the economics as well as the technique of the process.

The treatment of gasoline for the removal of gum formation and the use of various types of inhibitors to prevent gum formation will be presented. Also three processes of gasoline sweetening will be discussed in papers presented both by manufacturers and refiners with the economic advantages of each forming the theme of all the discussion.

The technical program in detail is as follows:

Salt Removal From Crude Oil—Electrical Process by the Petroleum Rectifying Co.

Salt Removal From Crude Oil—Chemical Process by the Skelly Oil Co. and other refiners.

Reforming by Wright W. Gary of the M. W. Kellogg Co. (a second paper on reforming will be presented by an author to be announced).

The Economics of Gum Removal and Inhibiting by Dr. C. R. Wagner, Pure Oil Co.

*GASOLINE SWEETENING*

Doctor Sweetening by C. W. Rippie, Solvay Sales Corp.

Lead Sulfide Process by Stratford Engineering Co. with D. B. Nutt, Standard Oil Co. of California, delivering the paper.

Copper Chloride Treating—A review by C. W. Rippie and other authors.

Members of the committee who have arranged the program are Mr. Kaye, chairman; H. G. Osborn, Continental Oil Co.; H. W. Camp, Empire Oil & Refining Co.; W. F. Sims, Panhandle Refining Co., and R. B. Pierce, Louisiana Oil & Refining Co.

Arrangements for the general program for the twenty-fifth "birthday party" of the W.P.R.A. are in the hands of this committee: R. W. McDowell, Mid-Continent Petroleum Corp., chairman; T. H. Barton, Lion Oil Refining Co.; T. A. Helling, El Dorado Refining Co., and Roy B. Jones, Panhandle Refining Co.

## To Spend $24,000,000 on Oil Plans; $7,000,000 on Gas

NEW YORK.—Mar. 9.—An appropriation of $24,000,000 for its petroleum and natural gas producing, refining and transporting subsidiaries has been approved for 1937 by Cities Service Oil Co. Of the sum appropriated for the oil division, $16,000,000 will be expended for production, pipe line and storage facilities, principally in drilling offset and test wells, in new development work, in rentals and in acquiring new leases. New gasoline plants, refinery improvements and service station expansion will absorb the remaining $8,000,000.

Natural gas subsidiaries of the company will spend approximately $7,000,000 for improvements and expansion, purchasing additional leases, drilling offset and test wells, in pipe line construction and in development of underground storage. During 1936, gas subsidiaries added more than 300 miles of pipe line to their systems. Included was a project of 131 miles of 8- and 10-inch line connecting the Harrison pool in northern Pennsylvania with the Dunkirk and Batavia distribution systems in New York. Arrangements also were completed to purchase 82 miles of 10-inch line extending from the Richland-Monroe, Louisiana, gas fields to El Dorado, Ark.

## Cosden Reorganization

FORT WORTH, Tex.—Joshua S. Cosden, founder of the Cosden Oil Co., will become president of the reorganized firm known as Cosden Petroleum Corp., March 17, Federal Judge James Wilson announced. The new corporation will be financed by Karl W. Loeb & Co., and B. H. Roth & Co. of New York. Seven directors will be selected subject to approval in Judge Wilson's final order March 17. Meanwhile, plans for the reorganization will be forwarded to security holders for vote.

## Connally Law Extension

WASHINGTON, D. C.—Representative Martin Dies of Orange, Tex., has introduced a bill to make permanent the Connally "hot" oil act which expires in June.

## RETURNS TO TULSA

*GEORGE H. LANG*

George H. Lang, vice president of the Carter Oil Co., who has been employed in the New York offices of the Standard Oil Co. (New Jersey) since January 1, 1936, has resigned and will become associated with the Manahan Oil Co. at Tulsa March 15, it was announced Tuesday by George A. Manahan, president of the latter company.

Mr. Lang will be assistant to Mr. Manahan, and will be in charge of the land and lease department. He was to have joined the Tulsa company February 1, but was unable to conclude his New York work at that time. The Manahan Oil Co. and its allied concern, Manahan Drilling Co., are among the more successful independent operators and producers in Oklahoma. Discovery of the prolific Senora sand pay in the Olympic field, currently one of the more active areas in Oklahoma, and much of the development of that area in Hughes and Okfuskee counties is due to operations of the Manahan companies.

## Navy Fuel Oil Bids

Sinclair Refining Co.'s bid of $1.19 per barrel on a supply of 200,000 bbls. of fuel oil for the navy at Gulf ports was low. Shell Petroleum Corp., of St. Louis, bid $1.20 per barrel. Texas Co. (China) Ltd., bid $1.70½ per barrel on 60,000 bbls. for delivery at Manila, P.I., the only bid on this lot.

## Oklahoma Tax Bills

Among the bills introduced in the Oklahoma house of representatives during the week were:

H.B. 423—Speck and others—Raising gross production tax on oil and gas to 8 per cent, and on minerals to 1 per cent.

H.B. 426—Dees—Increasing gross production tax on oil to 7 per cent, and earmarking 2 per cent for pensions.

# *OBITUARIES*

**ROBERT FRED TAYLOR,** 54, of the staff of Imperial Oil Refineries, Ltd., died at Sarnia, Ontario, on February 27.

**GEORGE W. TILLEY,** 73, deputy supervisor of the oil and gas division of the Railroad Commission of Texas, at Olney, died suddenly on February 27. He had been in the district for 12 years.

**JOE S. PUGH,** 62, oil operator, who has been living at Hamilton, Tex., for two years, while drilling a test in the southern part of Hamilton County, died at his home in that city, March 5. He had operated in Oklahoma prior to moving to Texas.

**EMERY GARDINER BARBER,** retired director of Standard Oil Co. of New Jersey, died March 1 at his home in Ridgewood, N. J. Until his retirement in 1933, he had been affiliated with Standard of New Jersey for 33 years rising to head of the domestic marketing department.

**MARK L. REQUA,** 70, who was chief of the National Petroleum War Service Board during the World War, died March 6 in a Los Angeles hospital following an operation. He was prominent in discussion of oil conservation, being appointed by former President Hoover chairman of the conference of governors of oil-producing states held at Colorado Springs, Colo., June, 1929.

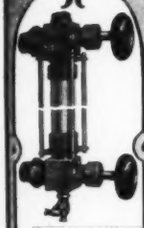
**R. B. ANDREWS,** 48, director general of Romano Americana, subsidiary of Standard Oil Co. (New Jersey) in Rumania, died suddenly last month. He had been 24 years with the Standard organization. He started in the Tulsa warehouse of Prairie Oil & Gas Co., shifted to the pipe line gang and worked in the producing department until 1914, when he sailed for the Moreni refinery of Romano Americana. Death terminated 18 months of service as director general of the company.

**WILLIAM HARRIS DUNNING, JR.,** 43, of Fort Worth, Tex., who rose from an oil field worker to become one of the operators prominent in the petroleum development of West Texas, died of a heart attack March 5 at Odessa, Tex. He became interested in oil during the Burkburnett boom in 1917 and 1918. He began as a worker on the floor of a derrick and moved up to tool dresser, then to driller. He moved to Fort Worth and started in the contracting phase. He drilled the McElroy discovery well in Crane County, and in 1924 sold his holdings to Gulf Oil Corp.

Hydraulic Ejector

PENBERTHY PRODUCTS

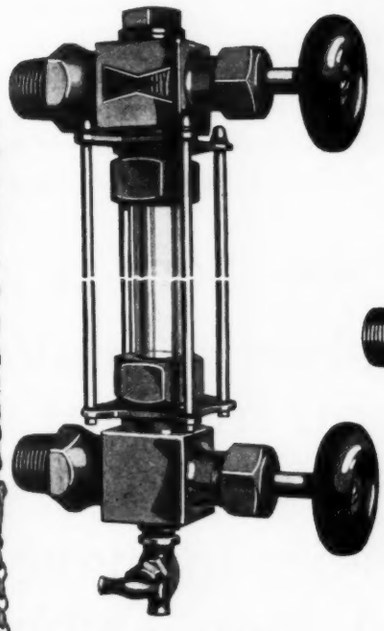
Steam Ejector


"Safeguard" Automatic Liquid Level Gage

# PENBERTHY LIQUID LEVEL GAGES

## MEET ALL OIL INDUSTRY NEEDS

"NAVY TYPE"
350 LBS. WORKING PRESSURE
500° F.



"SAFEGUARD"
300 LBS. WORKING PRESSURE
500° F.

"ALL IRON"
500 LBS. WORKING PRESSURE
750° F.

PENBERTHY PRODUCTS

THE three gages shown here are very popular in the oil industry because of their consistently dependable operation. All of them are ruggedly built of the highest grade materials by an organization that has had 48 years experience in the manufacture of quality products. The "Navy Type" is made from Navy Bronze Composition M, the "Safeguard" from high grade steam metal bronze and the "All Iron" from a modern electric iron alloy.

All these gages have automatic shut-off. Both upper and lower body have ball check valves that seat immediately and positively to prevent the loss of liquid when glass is broken. The hand operated stop valves may then be closed with safety and a new glass inserted.

Each gage is carefully tested and rigidly inspected at the factory. For detailed descriptions write for a copy of the new catalog.

Penberthy Liquid Level Gages are carried in stock by supply houses everywhere.

**PENBERTHY INJECTOR COMPANY**
DETROIT, MICHIGAN
WINDSOR, ONTARIO

MANUFACTURERS OF QUALITY PRODUCTS SINCE 1886

Automatic Injector

Gas Engine Lubricator

Snap Lever Oiler

Automatic Electric Sump Pump

"All-Iron" Automatic Liquid Level Gage

"Navy Type" Liquid Level Gage

Automatic Cellar Drainer (Water or Steam Operated)

Spring Compression Grease Cup

Plain Compression Grease Cup

Screw Plunger Grease Cup

# *Dubbs refiners know it*

Today, the real basis of operation is cracking, with skimming used to furnish charging stock The operator who endeavors to maintain a well-balanced operation regulates his crude distillation in accordance with that requirement —OIL AND GAS JOURNAL, *February 11, 1937*

## That's the story in a nutshell

## If you skim to make gasoline to sell you are out of luck— motorists don't want it

## If you skim to make charging stock and then Dubbs-crack it you're in the money

## There is never enough Dubbs-cracked gasoline to go round

## Ask any Dubbs refiner

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

# *Independent Petroleum Association Calls Two Committee Meetings*

Charles F. Roeser, president of the Independent Petroleum Association of America, has called a meeting of the executive committee of the association to meet at noon, Friday, March 12, at the Biltmore Hotel at Oklahoma City. The members of the executive committee are: J. Steve Anderson, vice president, Anderson-Prichard Oil Corp., Oklahoma City; H. D. Atha, president, Gordon Oil Co., Mount Pleasant, Mich.; J. S. Bridwell, Bridwell Oil Co., Wichita Falls, Tex.; Frank C. Condon, vice president and general manager, Hawkeye Petroleum Corp. of Texas, Longview; Harold B. Fell, executive vice president, Independent Petroleum Association of America, Tulsa; Wirt Franklin, Wirt Franklin Petroleum Corp., Oklahoma City; N. T. Gilbert, general manager, Turman Oil Co., Tulsa; Charles F. Roeser, president, Independent Petroleum Association of America, Fort Worth, Tex.; E. B. Shawver, Shawver Petroleum Co., Wichita, Kans.; H. M. Stalcup, vice president, Skelly Oil Co., Tulsa; Van S. Welch, president, Flynn, Welch & Yates, Inc., Artesia, N. M.; and Ralph T. Zook, president, Sloan & Zook Co., Bradford, Pa.

The committee on balance of supply with demand of the association will meet on Friday, March 12, at 9:30 a.m., at the Biltmore Hotel, Oklahoma City, it was announced by H. B. Fell, executive vice president and chairman of the committee. The executive committee will meet on the same day for luncheon at noon at the Biltmore Hotel.

The members of the committee on balance of supply with demand are H. B. Fell, chairman; J. S. Bridwell, E. B. Shawver, Van S. Welch, and C. M. Boggs, president, Western Petroleum Refiners Association, Arkansas City, Kans.

## Heaviest Exports of Gasoline, Gas Oil and Lube Oils

NEW YORK, Mar. 9.—Heavier exports of gasoline, gas oil and most grades of lubricating oil featured January business of American oil shippers. Activity in the Gulf Coast and Pennsylvania lubricating oil markets by foreign purchasers was continued. January's petroleum exports, compared with December, follows:

| Product— | Quantity, in bbls. January | December |
|---|---|---|
| Crude petroleum | 3,595,626 | 3,665,834 |
| Natural gasoline | 115,559 | 126,846 |
| Gasoline in bulk | 2,402,706 | 1,573,328 |
| Gasoline in containers | 52,118 | 69,286 |
| Mineral spirits | *230,987 | 96,114 |
| Naphtha, etc. | 49,798 | 125,823 |
| Kerosene in bulk | 560,413 | 595,886 |
| Kerosene in containers | 47,271 | 70,248 |
| Gas oil and distillate fuel | 2,139,600 | 1,460,983 |
| Residual fuel | 1,211,384 | 1,287,975 |
| Lubricating oil: | | |
| Red and pale | 373,977 | 369,059 |
| Black | 34,136 | 28,653 |
| Cylinder oil | 244,130 | 225,047 |
| Insulating oil | *47,238 | *92,326 |
| Package lube oil | *56,777 | *68,627 |
| Lubricating greases | †8,010,969 | †8,031,305 |
| Paraffin wax, unrefined | †6,565,482 | †7,761,807 |
| Paraffin wax, refined | †11,232,384 | †9,561,106 |
| Petroleum asphalt | ‡9,488 | ‡8,456 |
| Petroleum coke | ‡3,053 | ‡7,172 |

*Gallons. †Pounds. ‡Tons.

## Madison Ruling Expected

MADISON, Wis.—Federal Judge Patrick Stone has taken under advisement demurrers to indictments charging violation of the antitrust act in the oil business.

The court announced it expected to rule within 10 days.

Government and defense counsel will decide upon a date in April to argue motions for a bill of particulars and the release of witnesses before the federal grand jury from their oath of secrecy.

## New Illinois Field

FAIRFIELD, Ill., Mar. 9.—The Pure Oil Co. No. 1 Bradley, in section 26-1n-7e, Wayne County, was standing with oil in the hole from McCloskey sand topped at 2,970 feet, and drilled 1 foot in. The same company's No. 1 Weiler in section 33-3n-8e, in Clay County, was still shut down awaiting tankage. It is showing oil in the Cypress sand at 2,600 feet.

The Adams-Louisiana Oil Co. test in section 21-4n-1e, Marion County, was flowing about 2.55 bbls. per hour through one-half inch choke through tubing from Nenoit sand at 1,400 feet.

## Geophysical Permits

SAN ANGELO, Tex.—Enabling oil companies to prepare for another public auction of oil and gas leases on university lands in June, regents of the University of Texas announced permits can be obtained now for geophysical and geological inspection of blocks in Andrews, Crane, Ector, Upton, Reagan and Terrell counties. Permits must be obtained through the University Lands Office here. From March 1 to October 15, Blocks 1, 2, 9, 10, 11, 13 and 14 in Andrews County and Blocks 30, 31 and 35 in Crane and Ector counties will be open; from May 1 to October 15, Blocks 1 to 13, inclusive, and Blocks 49, 50, 51 and 58 in Reagan and Upton counties and Blocks 34, 35, 36 and 37 in Terrell County will be open.

## PROMOTED BY EMPIRE

*W. A. FISHER*

Following the appointment of A. N. Horne as manager of the Empire's oil pipe line division, succeeding F. K. Haskell, W. A. Fisher will become assistant manager. These changes, effective April 1, were announced by H. R. Straight, vice president and general manager of the Empire Oil & Refining Co. Mr. Fisher joined the Empire with the acquisition of refineries of the Ponca Refining Co. in 1916. He was with Evans-Thwing Refining Co. at Wichita in 1918, and returned to Empire in the oil pipe line division in January, 1919.

## THE MARKETS*

**CRUDE OIL:** *A new record in weekly production with latest available information showing additions to crude stocks and large gains in motor fuel inventories have not weakened the crude market. The active competition among crude buyers for new connections is in part due to feeling that some of the existing fields will not be able to maintain present production through the summer months.*

**REFINERY:** *While gasoline shipments are showing seasonal improvement, supplies are adequate and the market tone is soft in several areas. Concessions have been given in spot shipments of furnace oils. Pennsylvania and western bright stocks advanced. Strong demand for residual fuel oils in all areas.*

**TANK-WAGON AND SERVICE STATION:** *Standard of Nebraska dropped gasoline tank-wagon and dealer prices 1 cent, following a reduction of 1 cent in state tax. Continental advanced kerosene 1 cent in Montana.*

**FINANCIAL:** *Price ranges about the same as previous week with reduction in volume of sales. Average of 30 representative oil stocks for week ending March 6: High, 43.83; low, 41.90; close, 43.25. For week ending February 27: High, 43.39; low, 41.49; close, 42.37.*

*Detailed information in Market Section.

## C.I.O. May Postpone Oil

WASHINGTON, D. C., Mar. 9.—It was indicated here today that the Committee on Industrial Organization might postpone its plan to center its activities on the unionization of the oil industry in favor of a program for the textile industry. The C.I.O. recently announced it would actively support a program to unionize all branches of the oil industry through the Association of Oil Field, Gas Well and Refinery Workers. The latter has contracts with several refining companies covering operation of plants.

## Interstate Tax Compact

AUSTIN, Tex.—An interstate compact on oil and other natural resources taxes is proposed in a resolution introduced in the house of representatives. It calls for appointment of a joint legislative committee to study the natural resources tax structures of other states and make recommendations to the legislature two years hence looking to a compact.

## News Notes

**Motorists of Louisiana have paid a total** of $81,465,347 in gasoline taxes since 1921, Harry D. Smith, secretary of Louisiana Petroleum Industries Committee, informed Governor Richard W. Leche. Total payment during 1935 was $9,345,443, and for the first nine months of 1936, $8,534,620.

**The province of Alberta, Canada, derived** $2,219,729.59 net from the provincial tax on gasoline and fuel oil in the fiscal year 1936. Motor vehicle licenses yielded $1,424,978.84.

**A bill which would limit the hours of labor** in the oil industry of Arkansas to 40 hours weekly, or eight hours a day, has been introduced in the legislature.

**The Arkansas legislature is considering** House Bill No. 415 which would amend Act 118 of 1923 and increase the severance tax upon oil to 5 cents a barrel, regardless of market price. The bill is now in the hands of the House Oil and Gas Committee.

**An order of the Texas Railroad Commission** permits wells in the Panhandle oil field to produce with a ratio of 7,000 feet of gas to each barrel of oil. The statewide rule is 2,000 to 1.

# Oil News from Foreign Lands

## More Wildcatting in England

An exploration program calling for additional tests in southern England has been projected by D'Arcy Exploration Co., wildcat drilling subsidiary of Anglo-Iranian Oil Co., despite disappointing results obtained so far in the concern's first two deep ventures.

Probably the next test location by D'Arcy Exploration will be in the vicinity of Newbury on the Kingsclere anticline, removed inland from the Portsdown and Henfield tests. The Portsdown test, the first started in the search of oil production on the British Islands, is now drilling below 6,550 feet, probably near base of the Lias, which operators are determined to explore before abandonment. The suggestion that the Paleozoic floor, which is within 1,000 feet of the surface under London also rises to comparatively shallow depths on the southern flank of the Weald anticline appears to have been entirely disproven. Substantiation of the theory would have meant material thinning or complete absence of Jurassic, which was found not to be the case. The Henfield test, east of that at Portsdown, is now drilling around 4,500 feet below the Inferior Oolite limestones and probably will be carried to at least 5,000 feet, or deeper.

Lack of adequate porosity in upper Jurassic and lower Cretaceous has been the predominating feature of exploration insofar as the tests at Portsdown and Henfield are concerned. Both tests have contributed stains of petroleum in cuttings and cores and the Henfield test had a showing of gas in the top part of the Great Oolite limestone which appeared to be co-mingled with salt water. The gas showing, however, did not approach commercial proportions. It tested 73 per cent methane, 19 per cent nitrogen and 6 per cent hydrogen.

In addition to the Kingsclere anticline test near Newbury which probably will be drilled this summer as soon as the rig is freed from the Portsdown project, D'Arcy Exploration Co. plans to test other areas in Nottinghamshire, Lincolnshire, Yorkshire and Scotland. An extensive geophysical program is now under way in Nottinghamshire, Lincolnshire and East Yorkshire. Gravimeter and pendulum, magnetometer and reflection seismic observations have been made. Additional work remains to be done before sufficient data is in hand to make location.

In the valley of the Esk, near Aislaby, west of Whitby, D'Arcy probably will drill a test well this year. Location has been made tentatively on the crest of a dome on which Liassic beds outcrop. This area will be tested for possible production in the Permian limestone. The Lias shales and underlying limestones are known to carry stains of oil in this area, a determination possible through core holes drilled in establishing coal deposits. Conditions under which the Permian limestone was deposited are believed similar to those in Germany where the formation produces. At least one test will be drilled on D'Arcy's holdings in Scotland, east of the Pentland Hills and probably will be on Cousland dome.

## Argentine's Production for 1936

Argentine's crude oil production in 1936 was reported by the Department of Commerce at Washington last week to have totaled 2,457,094 cubic meters, an increase of 184,117 meters or 8 per cent above the 1935 output. Figures on Argentine's production were reported by attaches of the Bureau of Foreign and Domestic Commerce station in Buenos Aires.

One of the total production, the state-owned agency, Y.P.F., accounted for 1,140,188 cubic meters while private companies produced 1,316,906 cubic meters.

Using the conversion factor of 6.289 bbls. per cubic meter, the Argentine's crude production last year amounted to 14,252,664 bbls., on the basis of Department of Commerce reports, compared to earlier estimates of 14,950,000 bbls.

Production in the Comodoro Rivadavia fields in 1936 amounted to 1,996,821 cubic meters, compared with 1,813,506 cubic meters in 1935. The production by fields and companies for 1936 and 1935 is listed below:

**COMODORO RIVADAVIA FIELDS**

(Figures in cubic meters)

| Companies— | 1935 | 1936 |
|---|---|---|
| Yacimientos Petrolíferos Fiscales | 857,026 | 1,018,299 |
| Astra, Cia. Argentina de Petroleo | 186,855 | 167,276 |
| Ferrocarrilera | 239,318 | 215,207 |
| Industrial y Comercial | 11,332 | 19,223 |
| Diadema Argentina, S.A. | 513,838 | 570,644 |
| Solano, Cia. Petrolífera Argentina | 5,137 | 6,172 |
| Total | 1,813,506 | 1,996,821 |
| **PLAZA HUINCUL** | | |
| Y.P.F. | 61,516 | 79,010 |
| Standard Oil | 60,191 | 63,696 |
| Astra | 3,731 | 3,100 |
| La Republica (Standard) | 21,056 | 20,375 |
| Total | 146,494 | 166,181 |
| **SALTA** | | |
| Y.P.F. | 19,232 | 33,298 |
| Standard Oil Co. | 284,930 | 248,348 |
| Total | 304,162 | 281,646 |
| **MENDOZA** | | |
| Y.P.F. | 5,795 | 9,581 |
| Rio Atuel Ltda. | 2,743 | 2,865 |
| Total | 8,538 | 12,446 |
| **JUJUY** | | |
| Y.P.F. | 227 | ..... |
| Grand total all fields | 2,272,977 | 2,457,094 |

## California-Texas in India

California-Texas Oil Co., Ltd., plans to spend approximately $3,700,000 over a two-year period in establishing its marketing subsidiary in India on a more extensive scale. Most of the expenditure will provide distributing facilities at India's chief ports and internal terminals. Storage tanks and distributing facilities will be constructed at Calcutta, Madras, Karchi. Fuel oil storage tanks have been completed at Colombo, Ceylon. Supplies for the Indian market will be produced and refined on Bahrein Island. Completion of the refinery facilities is scheduled by the middle of this year. First products from Bahrein probably will reach the Indian market late this year.

## Tehuantepec's Big Well

Richmond Petroleum Co., subsidiary of Standard Oil Co. of California, last week completed its No. 2 Cuichapa in the Isthmus of Tehuantepec region, in Mexico, for production of about 1,300 bbls. of light crude daily. The new well is one of the largest high gravity oil producers in the state of Vera Cruz.

Production is coming from total depth of 2,240 feet and was reported by the Ministry of National Economy to be 37 gravity. The new well is about 25 kilometers southeast of Puerto, Mexico.

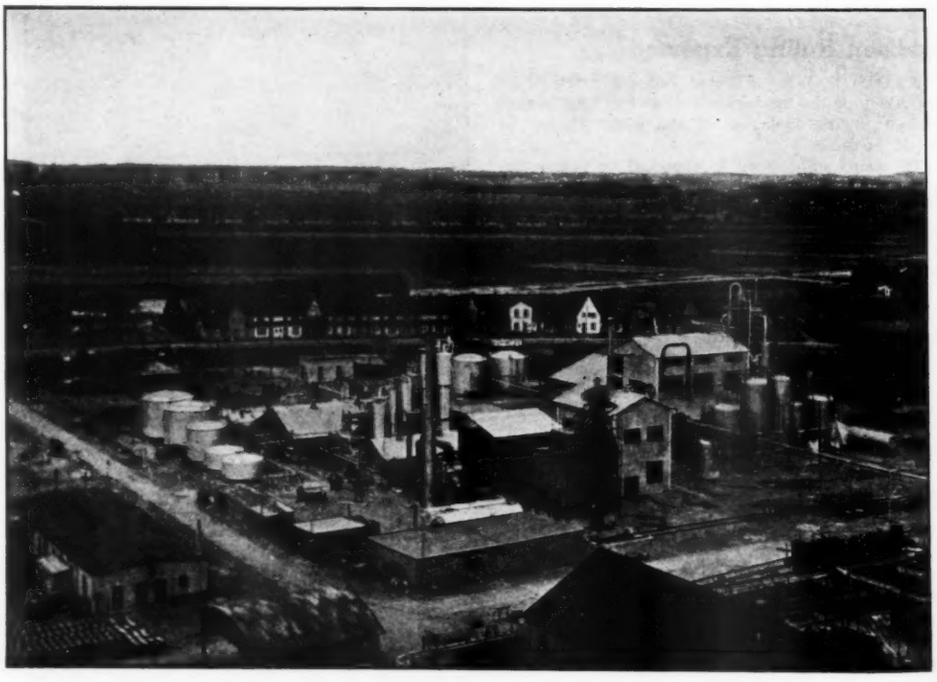
## France's Increased Consumption

France's petroleum consumption increased 10 per cent in 1936 to a total of 4,507,545 metric tons, or approximately 31,552,815 bbls., according to a report from U. S. Vice Counsul D. B. Levis, issued through the Department of Commerce.

Last year's consumption compares with 4,086,616 metric tons in 1935. Increased consumption of gasoline, gas oil, fuel oil, lubricating oils and road oils accounted for the 10 per cent gain.

Domestic refineries now produce approximately 70 per cent of the French petroleum consumption. About 6,027,000 metric tons of petroleum was processed by French refineries in 1936, compared to 5,645,000 tons for the preceding year. Finished products from domestic refineries totaled 4,265,350 tons in 1936, against 5,040,000 tons in 1935.

Exports of petroleum products from France, including fuel for foreign vessels, during 1936 amounted to 513,371 tons, compared to 539,601 tons in 1935.



***The clearosol unit on the left and the benzol acetone plant at the right were two important units added to the Deutsche Vacuum Oel A. G. (Socony-Vacuum) refinery at Bremen, Germany***

*Select the Rope that Fits Your Job*

The Langlay wire rope core layed in the opposite direction to the lay of the outer strands, exerts a counteraction to the tendency of the outer strands to spin and unlay. A non-spinning rope of this construction is ideally suited for high, vertical lifts of unguided loads. The non-spinning rope is poorly adapted to resist crushing, it must therefore be used with good drum winding conditions. The socket terminal connection applied with molten metal has been found to be the only satisfactory method of fastening a non-spinning rope. The use of wire rope clips causes the rope to be pinched out of shape with resultant sacrifice of rope life. Tell us what rope you are using and we will suggest ways of getting the longest possible life out of it.

WICKWIRE SPENCER STEEL COMPANY, *General Offices:* 41 East 42nd Street, New York. *Sales Offices and Warehouses:* Worcester, New York, Chicago, Buffalo, San Francisco, Los Angeles; *Export Sales Dept.:* New York.

WICKWIRE SPENCER SALES CORPORATION, New York, Chattanooga, Tulsa, Portland, Seattle.

**WIRE ROPE**

**by Wickwire Spencer**

WICKWIRE SPENCER STEEL CO.
41 East 42nd St., New York City
Please send me your new Rope Manual that tells how to make wire rope last longer.

Name_____

Firm_____

Address_____

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Daily average production of liquefied petroleum gases increased from 1,845 bbls. to 1,985 bbls., of which 644 bbls. were produced at refineries in January. Daily average sales decreased from 2,212 bbls to 2,096 bbls. Still gas production during the month amounted to 1,958,709,000 feet, equivalent on a B.t.u. basis to 498,111 bbls. of fuel oil.

**NATURAL GASOLINE PLANT OPERATIONS JANUARY, 1937**

| Field— | Gas treated (M.cu.ft.) | Natural gasoline produced (gallons) |
|---|---|---|
| San Joaquin Valley: | | |
| Elk Hills | 52,484 | 98,673 |
| Kettleman Hills | 13,116,138 | 16,679,878 |
| Midway-Sunset | 1,122,775 | 1,913,650 |
| Mountain View | 934,731 | 1,001,001 |
| Miscellaneous | 3,403,323 | 2,267,208 |
| Coastal Region: | | |
| Elwood | 779,239 | 988,400 |
| Rincon | 69,675 | 133,016 |
| Santa Maria | 135,280 | 369,994 |
| Ventura Avenue | 3,801,085 | 4,698,387 |
| Miscellaneous | 501,222 | 385,317 |
| Los Angeles Basin: | | |
| Brea-Olinda and Coyote | 641,909 | 1,613,502 |
| Dominguez | 1,356,344 | 2,163,118 |
| Huntington Beach | 1,552,685 | 3,522,606 |
| Inglewood | 261,179 | 344,253 |
| Long Beach | 1,708,252 | 7,138,236 |
| Playa Del Rey | 420,203 | 1,320,120 |
| Richfield | 233,821 | 387,496 |
| Rosecrans | 551,416 | 602,015 |
| Santa Fe Springs | 2,238,450 | 4,762,287 |
| Seal Beach | 530,638 | 655,330 |
| Torrance | 100,960 | 197,332 |
| Miscellaneous | 526,924 | 786,510 |
| Total all fields | 34,038,733 | 52,028,329 |

**DISTRIBUTION**

| | Gallons | Gallons |
|---|---|---|
| Stocks beginning of month | 2,056,721 | |
| Production during month | 52,028,329 | |
| Delivered to refineries | | 51,291,761 |
| Delivered to jobbers, brokers or blenders | | 762,848 |
| Blended at plants for production of motor fuel | | 6,775 |
| Losses | | 11,966 |
| Stocks end of month | | 2,011,700 |
| Total | 54,085,050 | 54,085,050 |

| | Gallons | | Barrels |
|---|---|---|---|
| Liquefied petroleum gas production | 1,745,673 | = | 41,564 |
| Motor fuel produced | 11,682 | = | 278 |

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One feature in handling this pipe will be to wrap it when received at Corpus Christi in the same manner as normally it would be wrapped at the mill. If wrapped at the mill and shipped by vessel to Corpus Christi the wrapper would be more or less damaged and to get around this difficulty the wrapping will be done when the pipe reaches destination. The cathodic protection will be applied to the section of pipe near the Corpus Christi terminal where it is laid in moist ground.

There will be only one pump station on this system and it will be at the Placedo field. At the terminal the line will be laid to permit any portion of the oil transported to be delivered to the refinery stock tanks or to loading racks for tankers at the company wharf at the refinery site.

## Lion Oil Gasoline Line

Lion Oil Refining Co. of El Dorado, Ark., has announced intention of immediately constructing a 4-inch gasoline line from its El Dorado refinery to a point on the Ouachita River 12 miles southeast near Calion, where storage tanks will be erected and gasoline shipped by barge down the Ouachita and up the Mississippi River to Greenville and Memphis.

## Demands Pipe Line Records

The Illinois Commerce Commission has entered an order requesting National Gas Pipe Line Co. of America to make available for examination before March 15, all of its accounts and records relating to sales of gas to the Chicago District Pipe Line Co., subsidiary of Peoples Gas, Light & Coke Co. The order was given on the theory that the interstate company, as an affiliate of the Chicago District company, is subject to its jurisdiction.

The action was taken by the commission at the request of Harry R. Booth, of counsel for the regulatory body, to bring the company into the proceedings involving proposed rate increases by the Peoples Gas, Light & Coke Co. Mr. Booth pointed out to James M. Slattery, chairman of the commission, that section 8-A of the public utilities act gives the commission control over affiliated interests and holding companies which have transactions with operating companies.

*Recoating and using holiday detector*

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## Barnsdall Placedo Line

Barnsdall Pipe Line Co., Tulsa, is preparing to let contracts on March 15 for laying 70 miles of 6-inch welded oil pipe line to extend from Barnsdall Oil Co. properties at Placedo field, Victoria County, Texas, to the site of the new refinery to be built by Barnsdall Refining Co. near Corpus Christi, Tex. Pipe for this line has been ordered and shipment will start about April 1 and it is intended to rush this work to completion as soon as contracts are signed. The ditch will be opened by machine and other work pushed. It is intended to wrap and coat the pipe and certain sections will be prepared for cathodic protection.

One feature in handling this pipe will be to wrap it when received at Corpus Christi in the same manner as normally it would be wrapped at the mill. If wrapped at the mill and shipped by vessel to Corpus Christi the wrapper would be more or less damaged and to get around this difficulty the wrapping will be done when the pipe reaches destination. The cathodic protection will be applied to the section of pipe near the Corpus Christi terminal where it is laid in moist ground.

There will be only one pump station on this system and it will be at the Placedo field. At the terminal the line will be laid to permit any portion of the oil transported to be delivered to the refinery stock tanks or to loading racks for tankers at the company wharf at the refinery site.

## Lion Oil Gasoline Line

Lion Oil Refining Co. of El Dorado, Ark., has announced intention of immediately constructing a 4-inch gasoline line from its El Dorado refinery to a point on the Ouachita River 12 miles southeast near Calion, where storage tanks will be erected and gasoline shipped by barge down the Ouachita and up the Mississippi River to Greenville and Memphis.

## Demands Pipe Line Records

The Illinois Commerce Commission has entered an order requesting National Gas Pipe Line Co. of America to make available for examination before March 15, all of its accounts and records relating to sales of gas to the Chicago District Pipe Line Co., subsidiary of Peoples Gas, Light & Coke Co. The order was given on the theory that the interstate company, as an affiliate of the Chicago District company, is subject to its jurisdiction.

The action was taken by the commission at the request of Harry R. Booth, of counsel for the regulatory body, to bring the company into the proceedings involving proposed rate increases by the Peoples Gas, Light & Coke Co. Mr. Booth pointed out to James M. Slattery, chairman of the commission, that section 8-A of the public utilities act gives the commission control over affiliated interests and holding companies which have transactions with operating companies.

**Recoating and using holiday detector**

# the OIL AND GAS JOURNAL

PRODUCING REFINING NATURAL GASOLINE PIPE LINE

Published weekly by THE PETROLEUM PUBLISHING COMPANY at Tulsa, Oklahoma



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# *Employe Has Most at Stake*

The oil industry stands in an exceptional position in regard to labor. It has been free from the industrial strife that has plagued others. Conditions peculiar to the great industrial centers do not exist.

The oil fields are scattered through the wide open spaces. The several hundred manufacturing plants are likewise distributed. It has been possible to establish labor relationships wholly different, evils claimed elsewhere being nonexistent in the oil industry.

Government reports show weekly wages in the petroleum industry substantially higher, with fewer hours, and a minimum of seasonal unemployment. Thousands of workers in the manufacturing branch work every month in the year, with a regular vacation, putting them practically on a yearly salaried basis.

Many larger companies have voluntarily adopted a system of annuities, various types of insurance, profit-sharing and sick benefits, with many other things that add to the comfort of employes, not directly connected with their employment.

Usually these plans have been carried out through company organizations of employes, recognized by management on a partnership basis.

Aside from the big companies, one of the finest things in the oil industry is the multitude of instances of personal relationships among the smaller operators, in many cases the employe being trained and equipped to go into business for himself, as many have. Conditions have never given excuse for disgruntlement.

The question is whether the oil employe is not jeopardizing his position and the position of his industry by dallying with unionization. Employers cannot continue to do as they are doing if they are to be circumscribed by labor control, supplemented by the already heavy burden of taxation of which the latest is the social security tax. The employer, with his load nearing the breaking point, is to be asked to yield management to a group of labor leaders who have no interests in or knowledge of his problems.

Unionization means standardization and regimentation. It places all employes on the same level. It would reduce the oil industry in its relation to labor to the level of other industries and bring down its employes to the lower standards of average employment. Only a minority wants unionization.

The oil employe stands to lose more than the employer if the industry drops from its exceptional position into the ruck of labor controversies.

# FIRST GEOPHYSICAL OIL FOUND

## (1) For ILLINOIS

In the first well drilled on reflection seismograph structure found by

INDEPENDENT EXPLORATION COMPANY

for Adams Louisiana Company of Houston, Texas, whose No. 1 Meryman, near the town of Patoka, Illinois, about 60 miles northeast of St. Louis, on January 27th began cleaning itself, FLOWING an estimated 100 bbls. a day of 39° oil, along with the wash water, from the Benoist sand at a depth of 1418 feet. On being shot, this flow next day increased to an estimated initial production of 500 bbls. oil daily.

## (2) For MONTANA

In the first well drilled on reflection detail done by

COLORADO GEOPHYSICAL CORPORATION

(An Independent Exploration Company Affiliation)

610 Midland Savings Building Denver, Colorado

***for Montana-Dakota Utilities Company, whose No. 1, Unit 1, on the Baker-Glendive anticline, Fallon County, was brought in for 60 bbls. I.P. an hour, in April, 1936.***

## (3) For WYOMING

In the first well drilled on reflection detail done by

COLORADO GEOPHYSICAL CORPORATION

(An Independent Exploration Company Affiliation)

610 Midland Savings Building Denver, Colorado

***for the California Company, whose No. 1 Holst, on the Quealy Dome, Albany County, was completed for 500 bbls. I.P. daily from Dakota sand, in April, 1935.***

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# AMERICAN ASSOCIATION

## GENERAL PROGRAM

### Ballroom, Biltmore Hotel

WEDNESDAY, 9:00 A.M. TO 12:15 P.M.

**Address of Welcome: A. L. Weil, President, General Petroleum Corp.**

**Response: I. A. Levorsen, Past-President of the Association**

### TECHNICAL PAPERS

**Ralph D. Reed—Presidential Address:** Southern California as a Structural Type.

**Drexler Dana:** Historical Development of California Oil Fields.

**Wallace E. Pratt:** Discovery Rates in Oil Findings.

**E. DeGolyer:** The Future of Exploration for Petroleum.

**James M. Kirby:** The Geology of the Sacramento Valley.

**Alex Clark:** Miocene Correlations Across the Southern San Joaquin Valley.

WEDNESDAY, 1:45 TO 4:45 P.M.

**Frank Rieber:** Motion Picture Presentation of Reflected Wave Pattern from Various Geological Structures.

**L. W. Blau:** The Interpretation of Geophysical Data.

**John L. Rich:** Application of the Principle of Differential Settling to the Tracing of Lenticular Sand Bodies.

**Joseph Neely:** The Stratigraphy and Petroleum Aspects of the Sundance Formation and Related Jurassic Rocks in Wyoming.

**Ross L. Heaton:** Stratigraphy Versus Structure in the Rocky Mountain Region.

**Warren O. Thompson and Harry W. Osborne:** Paleozoic Stratigraphy and Oil Prospects of Eastern Colorado.

**John G. Bartram:** The Upper Cretaceous of the Rocky Mountain Area.

## THURSDAY, 9:00 A.M. TO 12 NOON

**Joseph S. Irwin:** Oil and Gas Possibilities of Western Canada.

**Charles E. Weaver:** Geology and Its Relation to the Possible Occurrence of Petroleum in Oregon and Washington.

**N. Wood Bass:** The Verden Sandstone of Oklahoma.

**E. O. Markham and L. C. Lamar:** The South Burbank Pool, Oklahoma.

**E. G. Thompson:** Fault System of Northeast Texas with Emphasis Upon the Talco Structure as a Type.

**Herschel H. Cooper:** Occurrence and Accumulation of Oil in the Laredo District of Texas.

**E. Russell Lloyd:** Interpretation of Permian Stratigraphy of West Texas and New Mexico.

**Max Bornhauser:** Geology of the Tepetate Field, Acadia Parish, La.

## THURSDAY, 1:45 TO 5:00 P.M.: SYMPOSIUM ON RECENT DEVELOPMENTS

**Marvin Lee and George Baughman:** Kansas and Nebraska.

**A. E. Brainerd and Charles S. Lavington:** Rocky Mountain District.

**Frederic A. Bush:** Oklahoma.

**W. B. Heroy:** Foreign Countries.

**Basil B. Zavoico:** Russian Oil Fields.

**M. G. Edwards:** California.

**Berte R. Haigh:** West Texas and Southeastern New Mexico.

**Harry H. Nowlan:** Southwest Texas.

**A. W. Weeks and John E. Galley:** North and West-Central Texas and the Panhandle.

**O. L. Brace:** Gulf Coast.

**Wallace Ralston:** Northeast Texas.

**Dwight H. Bingham:** Arkansas and North Louisiana.

## FRIDAY, 10:00 A.M. TO 12 NOON

**J. Brian Eby and Michel T. Halbouty:** The Spindletop Oil Field, Jefferson County, Texas.

**S. Grinsfelder and W. S. Eggleston:** The Geology of the Dominguez Oil Field, California.

**J. Marvin Weller and Alfred H. Bell:** The Illinois Basin.

**Donald C. Barton:** Variation of Oil in the Gulf Coast.

**E. D. Lynton:** Laboratory Orientation of Well Cores by Their Magnetic Polarity.

## FRIDAY, 1:30 TO 3:00 P.M.

**Francis Shepard:** Salt Domes Off the Gulf Coast.

**B. W. Blanpied and Roy T. Hazzard:** The Age and Correlation of the Chickasawhay and Bucatunna Members of the Catahoula, Wayne County, Mississippi.

**B. W. Blanpied:** The Age and Correlation of the Salt Mountain Limestone, Clarke County, Alabama.

**W. L. Cozzens:** The Latest Developments in Aerial Photographic Mapping.

## PAPERS BY TITLE

**Bruce L. Clark:** Folding of the California Coast Range Type Illustrated by a Series of Experiments.

**P. E. Fitzgerald and W. Wray Love:** The Importance of Geological Data in the Acidizing of Wells.

**E. A. Koester:** Studies of Lower Paleozoic Formations in Central Kansas.

**O. L. Brace:** Interrelationship of Geology and Geophysics.

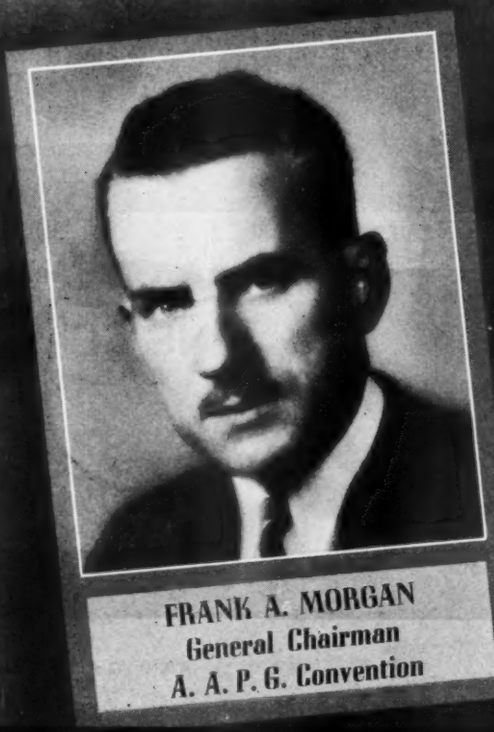
**Arthur S. Huey:** The Geology of the Tesla Quadrangle, Near Tracy, California.

**Frank M. Anderson:** The Knoxville Series in the California Mesozoic.

**Kenneth Dale Owen:** The Placedo Field of Victoria County, Texas, in Its Relationship to Gulf Coast Stratigraphy.

**George S. Buchanan:** Cheneyville Oil Field, Rapides Parish, Louisiana, and Its Relation to the Areas of Mother Salt Deposition.

# OF PETROLEUM GEOLOGISTS



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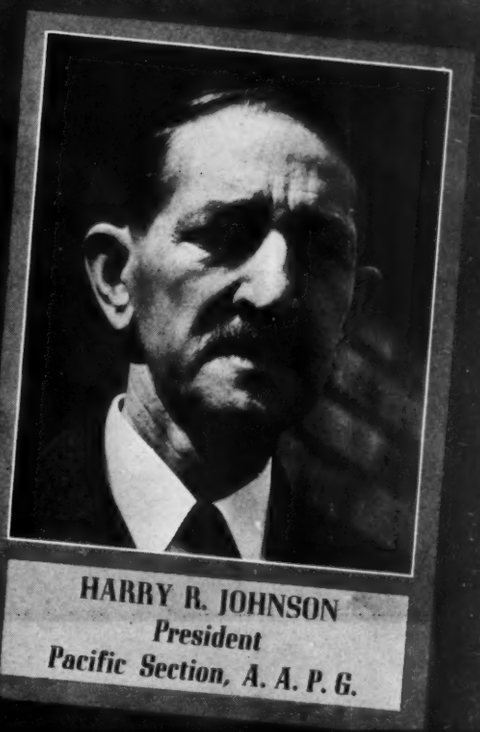
**A. A. P. G. Convention**



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***Pacific Section, A. A. P. G.***

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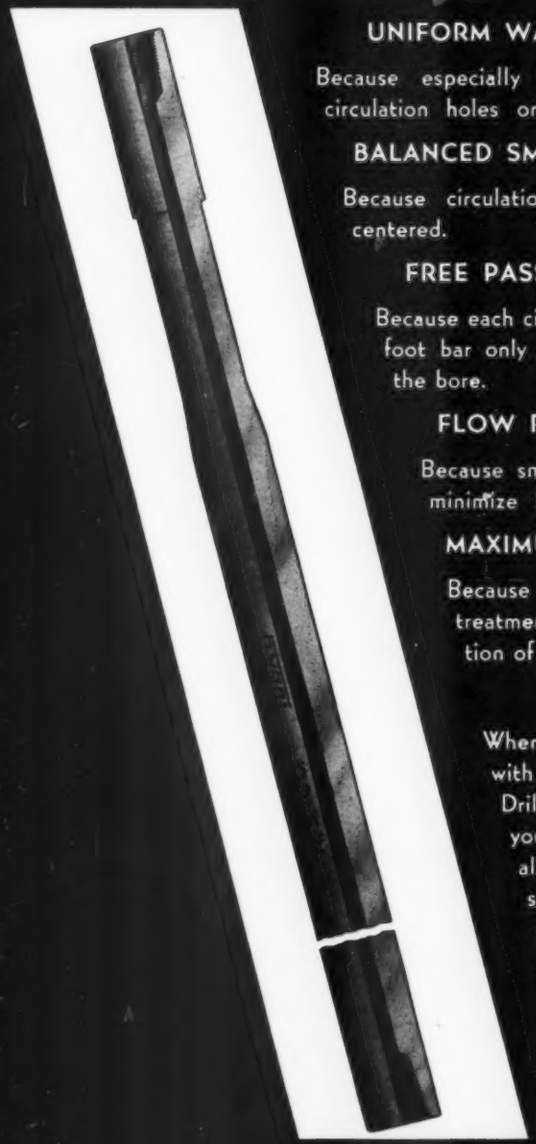

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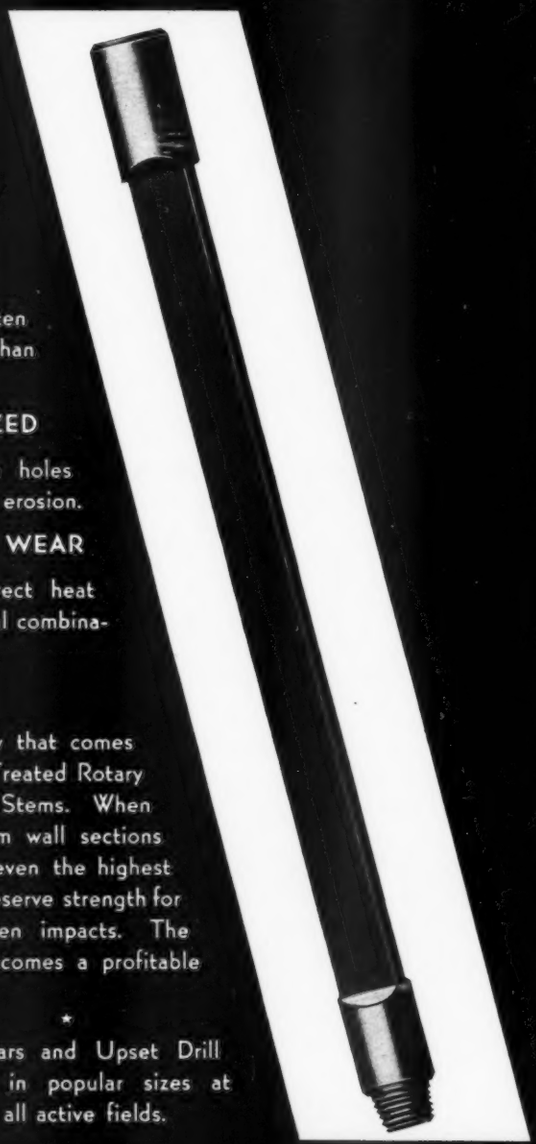

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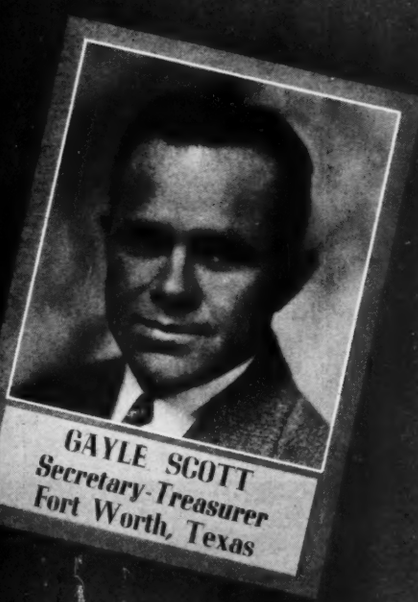

GAYLE SCOTT
*Secretary-Treasurer*
Fort Worth, Texas

## *Program of Paleontology and Mineralogy Division*

THURSDAY, 9:00 A.M. TO 12:30 P.M.: SYMPOSIUM ON CALIFORNIA CRETACEOUS AND TERTIARY STRATIGRAPHY AND PALEONTOLOGY

**Paul P. Goudkoff:** The Cretaceous of the Northern San Joaquin Valley.

**Frank B. Tolman:** Review of the California Eocene.

**Hubert G. Schenck, E. R. Atwill, B. L. Clark, L. C. Forrest R. M. Kleinpell and Chester Stock:** A Review of the California Oligocene.

**Robert M. Kleinpell:** The Miocene of Central California.

**Wilbur D. Rankin:** The Miocene of Southern California.

**Herschel L. Driver:** Correlation of Oil Fields Within Los Angeles Basin, California.

**W. D. Holman:** The Stratigraphic Relations of Pliocene Surface Sections of the Los Angeles District.

**William F. Barbat:** The Pliocene and Pleistocene Formations of San Joaquin Valley.

**U. S. Grant:** Some Observations on the Pleistocene of the Los Angeles Region.

**Bradford C. Adams:** The Pliocene of the Ventura Basin.

**Manley L. Natland:** The Distribution of Recent and Later Tertiary Foraminifera in Southern California.

THURSDAY, 2:00 P.M. TO 3:30 P.M.

**Merle C. Israelsky:** Gulf Coast Markers in the Eocene of Marysville Buttes, California.

**W. P. Woodring:** Paleographic Implications of the Larger Fossils from the Repetto Formation of the Los Angeles Basin.

**Charles Reiter Canfield:** The Subsurface Stratigraphy and Micropaleontology of the Santa Maria Valley, California.

**Donald W. Gravell and Marcus A. Hanna:** A New Horizon, Lepidocyclina Texana Gravell and Hanna, n.sp.ms. in the Heterostegina Zone, Upper Oligocene of Texas and Louisiana.

**Stanley G. Wissler:** Foraminiferal Zones of the Dominguez Oil Fields, Los Angeles County, California. (By Title).

**H. L. Durgan:** Species of the Genus Cytheropteron from the Weno Formation (Middle Washita) of Southern Oklahoma and Northern Texas. (By Title).

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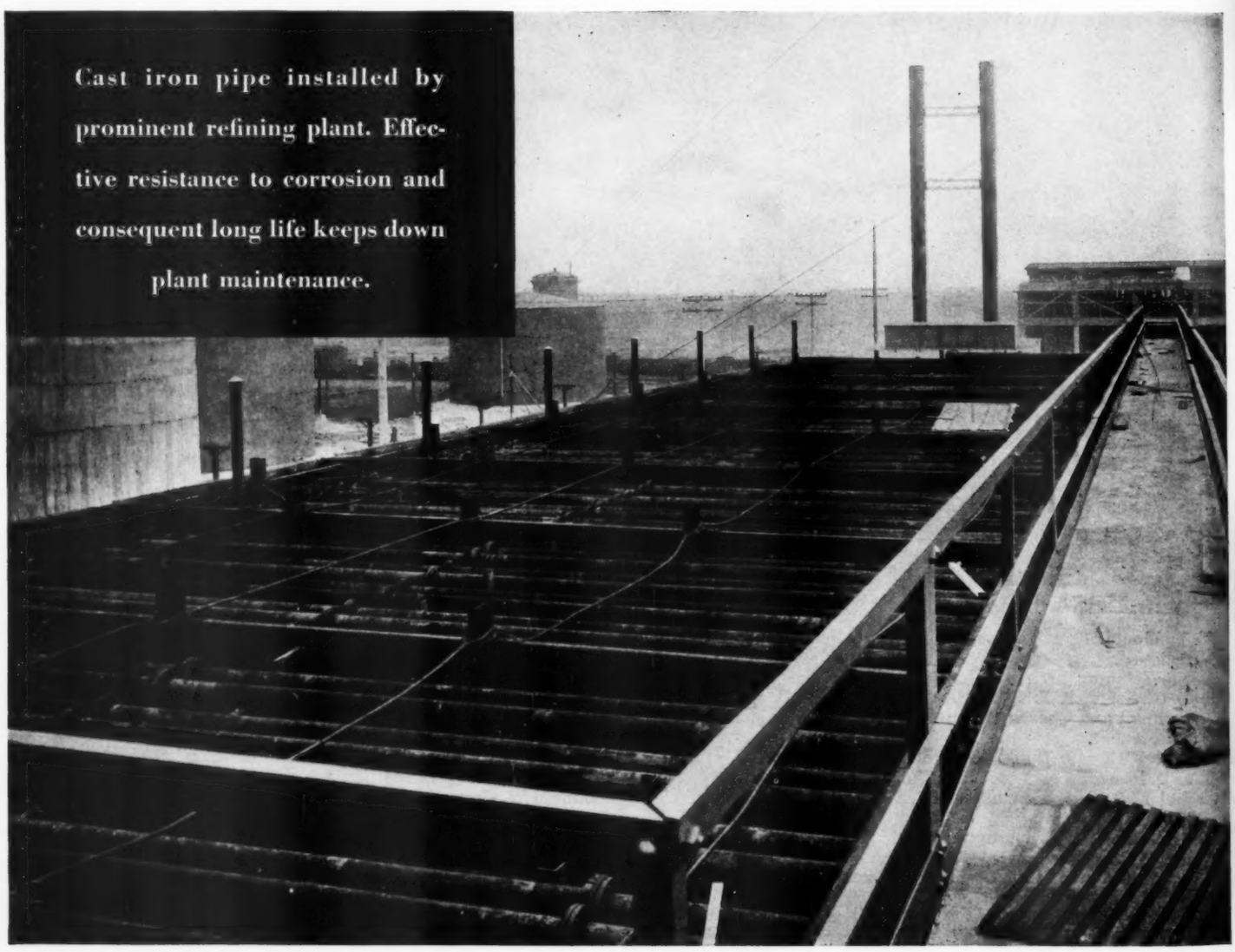

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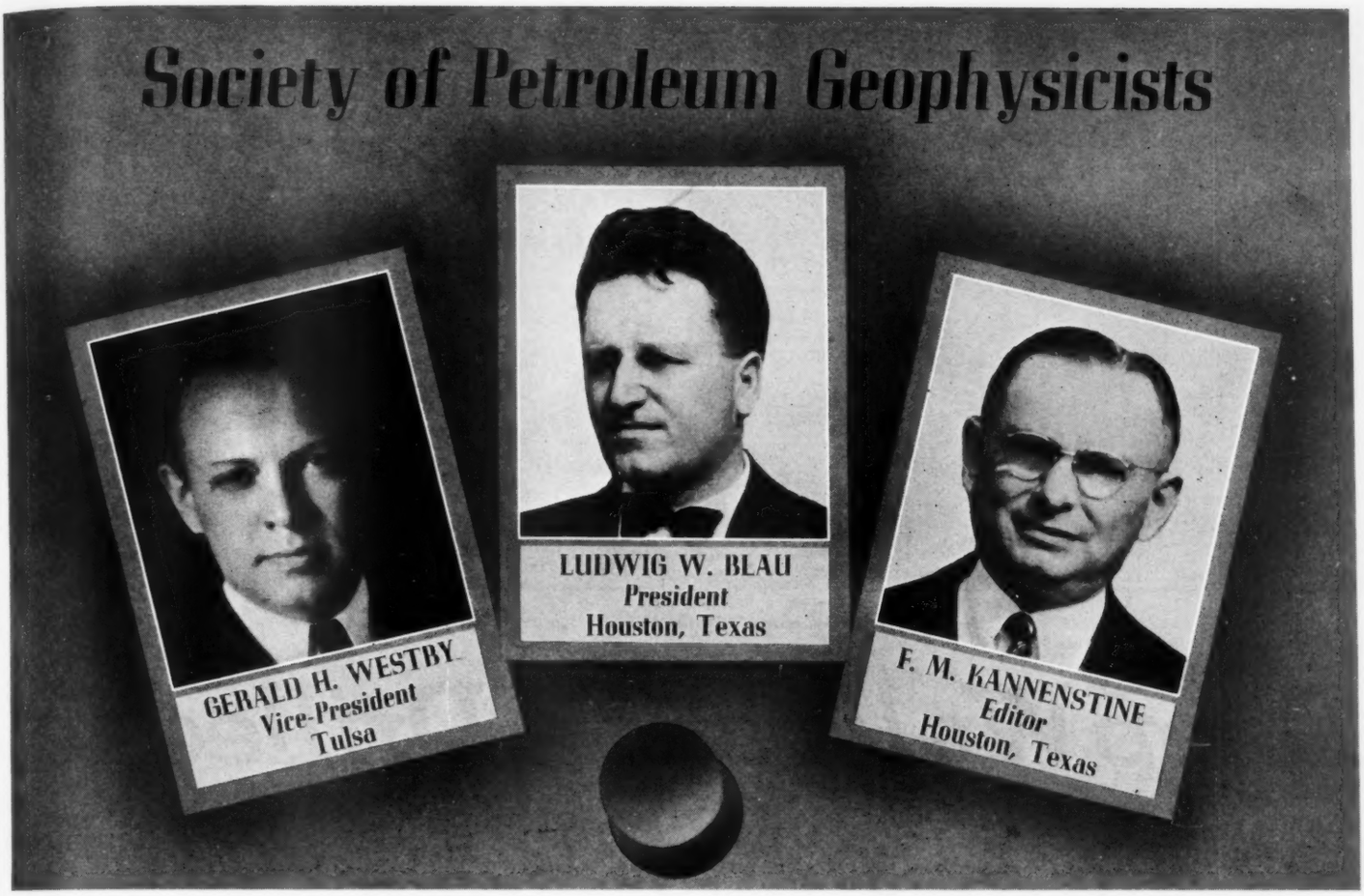
# Society of Petroleum Geophysicists




## *Program of Petroleum Geophysicists' Session*

**Beno Gutenberg:** Geophysics as a Science.

**H. B. Bryan:** Discussion of the Gravity Meter.

**M. H. Dilmore:** Earthquake Investigations.

**J. J. Jakosky and C. H. Wilson:** Electrical Prospecting for Oil Structures.

**J. A. Sharpe:** Magnitude and Character of Elastic Waves Produced by Explosion Pressures.

**Harold Washburn:** Transient Characteristics of Seismograph Apparatus.

**S. A. Scherbatskoy and J. Neuseld:** Fundamental Relations in Seismometry.

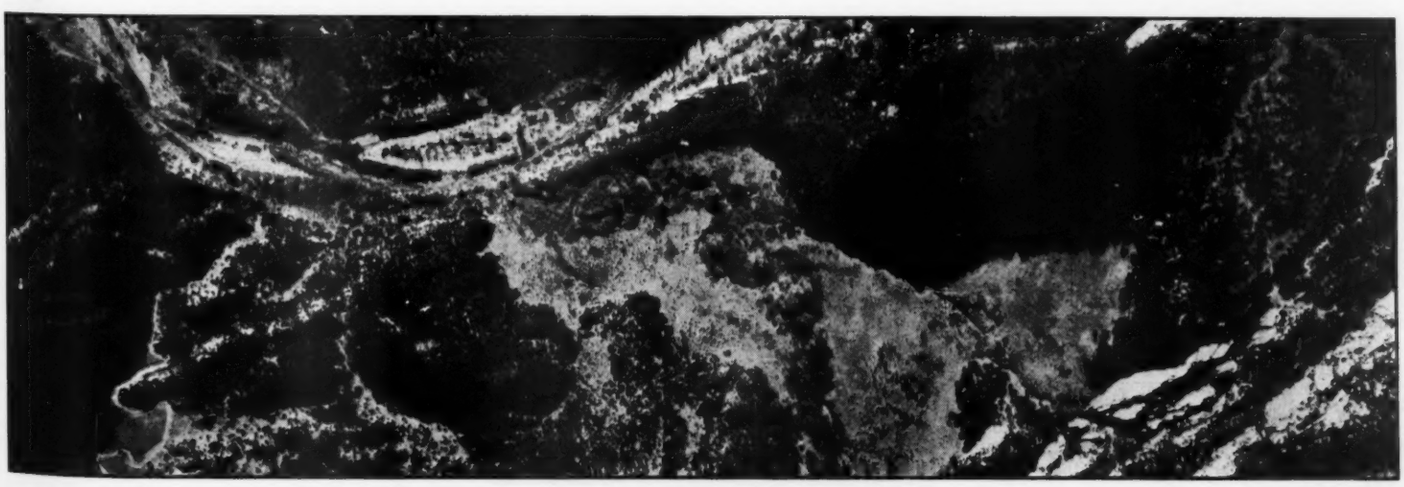
**Henry Salvatori:** The Mapping of Faults by the Reflection Method.

**D. G. C. Hare:** A New Source of Damped Wave Trains Suitable for Testing of Geophysical Instruments.

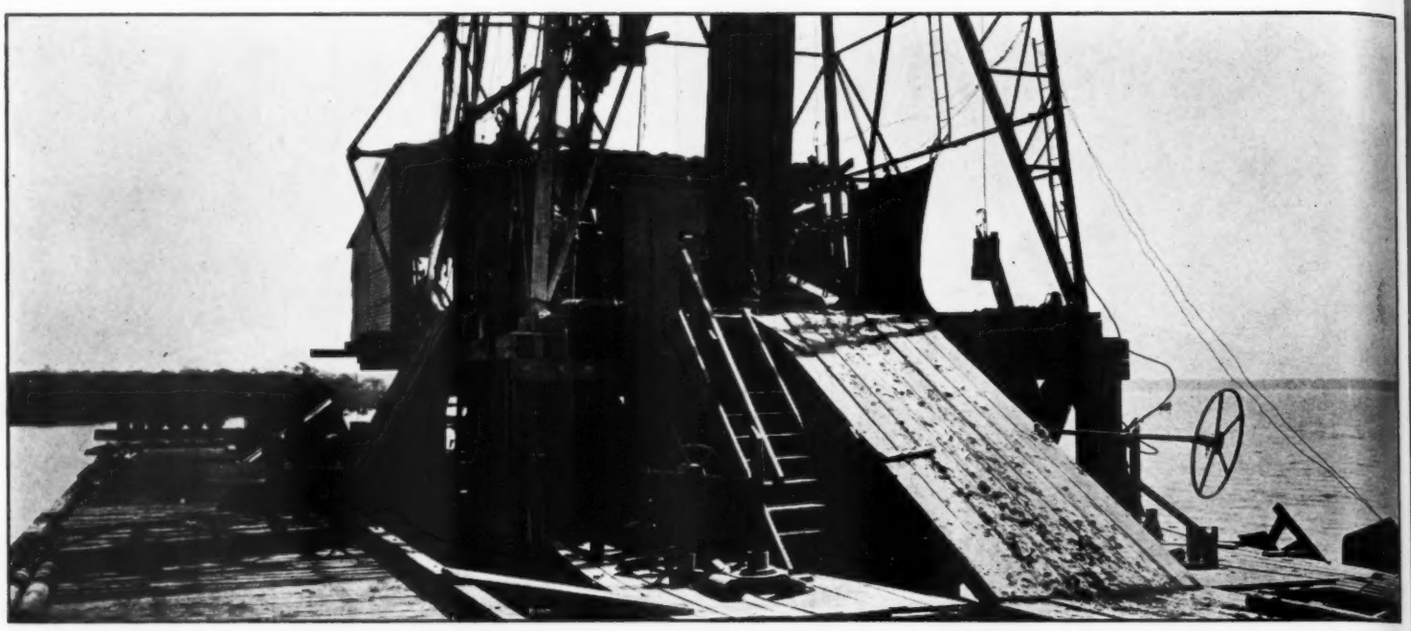
**Curtis H. Johnson:** Use of the Sonograph in Mapping Faults.

**E. E. McDermott:** Discussion of Multiple Recording.

**G. H. Westby:** Some Phases of Seismic Reflection Work in Antarctica.



***Bedding in the Sespe formation, California***



*Heavy modern rig drilling deep test in bay*

# Deep Wells to Be Drilled to Secure Subsurface Data

By L. G. E. BIGNELL

The trend of future prospecting for oil reserves is gradually being changed and the future will see the development of methods at this time only indicated. The fact that oil is not being found as rapidly as reserves are being depleted creates the incentive for the application of newer geological methods to prospecting. Easily found structures whether mapped from surface exposures or by geophysical methods have been explored. There must be many hidden oil pools not easily found and the work of the geologist will be to devise means of locating them.

After the early days of promiscous prospecting the industry gradually came to recognize the advantages of taking the advice of trained geologists. As time went on these geologists developed a technique as applied to oil prospecting and in more recent years have been materially aided by geophysicists. Paleontology and mineralogy now play important parts in the petroleum geology. But with the great advances made in the science of geology as applied to the petroleum industry's problems the rate of finding new oil reserves has not been in keeping with the rapidly increased rate of demand for petroleum products.

Because of this decrease in rate of finding oil" the industry is now beginning to ask how new oil fields are to be discovered. Coordination of the two main branches of the science of prospecting for oil combined with the drilling of "exploratory wells" seems to offer the answer to this question. The geologist will prepare a more definite background for the work of the geophysicist and in so doing will be materially aided by the drilling of wells for the sole purpose of obtaining stratigraphic information.

During the past few years while geophysical prospecting has been relied upon to aid the geologist in selecting sites for new test wells there has always been a certain amount of information available from past records of other wells drilled in the vicinity. Good interpretation of geophysical records depends largely upon detailed knowledge of the stratigraphy of the region in which the prospecting is to be done. But as the most promising regions for future prospecting have been tested both by geophysics and the drill it now remains for the industry to give new impetus to the search for oil by applying a new technique to this development.

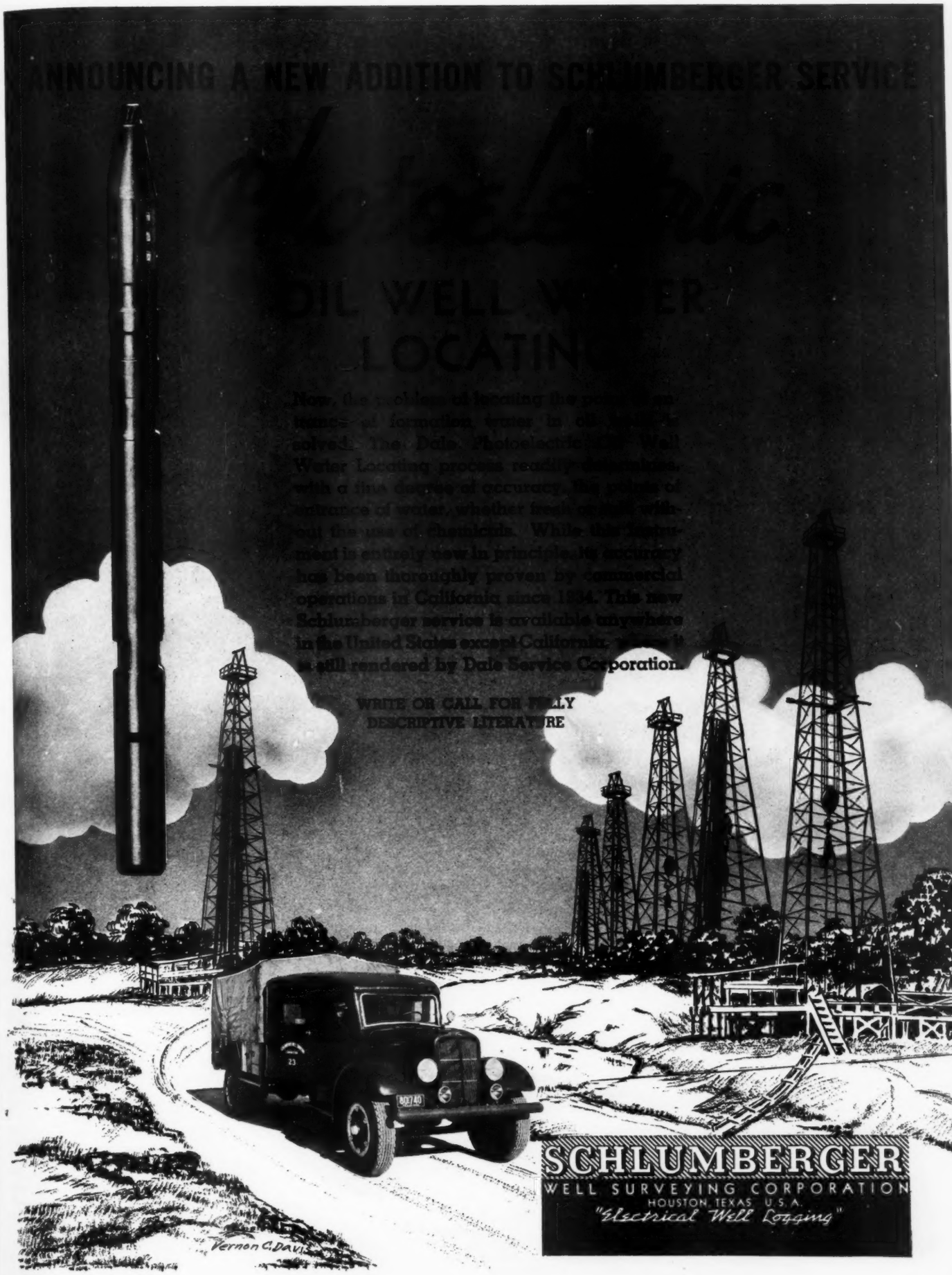
*Twelve feet of Bartlesville sand core*

The industry is very fortunate to have available numerous modern devices for both geological work and for the drilling of holes for the purpose of securing underground data. The magnetometer can be used to detect minute differences in the earth's magnetic field and in this way may be of assistance in outlining buried ridges along the edges of which may be found reservoirs containing gas and oil. The magnetometer, however, is not so extensively used now since the torsion balance and seismograph have been highly developed.

The torsion balance is used to register the difference in the pull of gravity created masses of rock beneath the earth's surface having difference in specific gravity. It is a very exact science and in certain areas has been used successfully. Interpretation of the records made by this instrument depend largely upon the general knowledge of the region.

The geophysical method most used in recent years has been refraction and reflection seismology. These two methods have been extensively used and have given excellent results so far as indicating possibilities of structures deeply buried in the earth. But so secure these interpretations it has been quite essential the geologist have a very clear understanding of the regional conditions, particularly the lithology of the sediments.

The geologists have learned through experience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# Beginning March 25TH

While Hughes Tool Company has been privileged to show thousands of oil men through its main plant at Houston, Texas, even a greater number has found it impossible to see at first hand the facilities for production of Hughes Products.

Beginning in the March 25th issue of The Oil and Gas Journal, a series of Laboratory and Production photographs will be reproduced showing the manufacture of Hughes Rock Bits, Core Bits, Tool Joints, and Valves—"from Raw Steel to the Finished Product".

We hope every reader of The Oil and Gas Journal will find this pictorial story of interest.

**HUGHES TOOL COMPANY—HOUSTON, TEXAS, U. S. A.**

that throughout the several petroliferous provinces in which oil has been and still is likely to be found the structural features are the products of regional crustal movements and tend to arrange themselves in patterns more or less common to the particular region. Such information is now becoming valuable for use in the future prospecting for oil reserves for proper interpretations of available knowledge will permit the geologists to recommend the location of "exploratory wells" to be drilled for the purpose of securing stratigraphic and lithologic data only.

In drilling these test wells only modern equipment and methods will be used and there is at hand everything needed to make possible the securing of complete needed information. Because of the fact it has been necessary to drill wells to depths below 10,000 feet in many instances and 7,000- and 8,000-foot holes are not uncommon in producing fields, the drilling machinery has been highly developed and the technique improved so it is now possible to drill straight holes in any region and do so with complete control at all times.

To indicate the numerous improvements in rotary drilling now available it is proposed to outline briefly the mechanical details of drilling what is termed an "exploratory well." While there will be some changes in details of surface housing and foundations, depending upon the geographic location of the "wildcat," the type of equipment selected will be much the same whether the hole is to be drilled along the Gulf Coast or in northern Montana. The production department to which this sort of task would be assigned is quite conversant with the needs for any locality and would assume for a test of this sort all equipment would be suitable to carry the hole to at least 10,000 feet.

The derrick selected will be of the heavy steel type probably 136 feet high and mounted upon steel superstructure. The cellar will be concrete lined and provided with everything necessary for control of high-pressure gas or oil should either be encountered unexpectedly. The surface casing string will be carefully cemented in place and carried in heavy type casinghead which in turn will be securely anchored.

In starting a well to be carried to an unknown depth it is usual practice to set 16- or 18-inch surface casing and then reduce to 14- or 16-inch hole and drill as far as possible before running the intermediate string of 11¾- or 12¼-inch casing. In this way a hole large enough to be carried to great depth is assured and the hole penetrating the producing formation may be at least 6 inches in diameter or under one method of completion might be 8¼-inch for 6⅝-inch casing to be set to bottom and later gun perforated if satisfactory showings have been had during drilling.

Not to confuse matters, however, it should be remembered the drillers of this exploratory well do not anticipate the finding of gas or oil in commercial quantities but rather securing samples of each and every formation penetrated by the drill for careful study by the paleontologist and the geologist. So instead of thinking of completing the well the actual drilling of the hole will be considered.

Heavy rotary drawworks and equipment will be used and the slush pumps will have ample capacity for this deep drilling. Whether the rig is powered by steam, diesel engine, or diesel engine electric generator, outfits will be decided by the contractor and by local conditions. Each type rig has its own particular advantages but any type will be capable of drilling the exploratory hole to any required depth efficiently and rapidly.

Because of the necessity of securing good samples of every strata cut by the drill this exploratory well will be equipped with the latest type coring tools as well as good samplers to handle the cuttings as they are delivered to the surface. One of the most satisfactory means of securing good samples at any time while drilling a well is to use the pressure control system of drilling and deliver all returns from the hole into a receiver. This tank should be built to withstand high pressures, if necessary, but for ordinary drilling the returns can be passed through such a separator and the cuttings discharged from the bottom. By taking samples of these cuttings at regular intervals the geologist can be supplied with good information about the various strata as they are penetrated.

An alternative to delivering all returns to the separator is to pass all mud over screens and deliver the cuttings to receptacles where samples can be taken at regular intervals in some unform manner. It is also possible to rig up an automatic sampler at the well to cut from the stream of returns from the hole samples to be based upon either time, or volume, or both. These samples could be taken at intervals to correspond with drilling rate and calculating speed of upcurrent in the hole carrying the cuttings to the surface it would be possible to estimate quite accurately the depth from which all samples were cut.

When changes in stratigraphy, as indicated by the study of the cuttings, show important strata are about to be penetrated by the drill it would be possible to change to core barrel and in this manner secure evidence of the type structure penetrated. These cores could be sent to the laboratory for complete check and will serve as one record for future correlation.

If either gas or oil-bearing formations are penetrated in this exploratory well they can be tested by using a drill-stem formation tester. This device is used for testing the contents and productivity of zones encountered in a drilling well without the expense and loss of time necessary to set and cement casing. By relieving the zone to be tested of the hydrostatic pressure created by the column of drilling fluid in the hole the well can be tested at approximately atmospheric pressure. A subsurface pressure recording instrument can be used with the formation tester and in this way very complete data of prospective producing formations can be secured.

In drilling a well of this kind tests should be taken at frequent intervals to determine the course of the hole. There are several types of well-surveying instruments available, and the records obtained

*(Continued on Page 55)*

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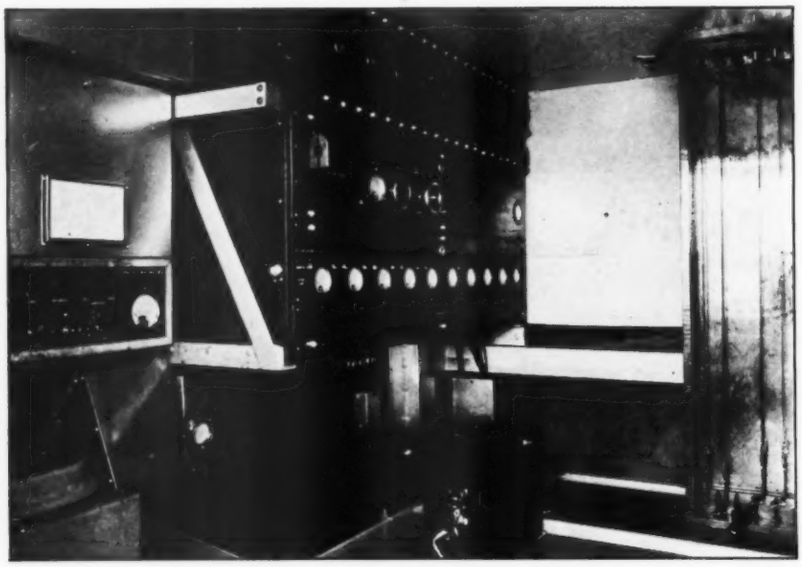
# New Method of Seismic Survey Affords More Information

By LESTER C. UREN
Professor, Petroleum Engineering, University of California



*Interior of operator's compartment on recording truck*

Modern methods of petroleum exploration and oil-field development require a maximum of subsurface information in advance of drilling operations. In the search for new oil deposits, the more obvious "structures" have already been discovered and tested. New ones must be found by methods capable of interpreting the more complex subsurface conditions, where surface geology affords little information. In many cases they will be deep-seated and will have little or no surface expression. Once found, structures must be tested by the drill before their potentialities may be known; and, since such drilling is costly, it is highly important that as much subsurface information be assembled as may be possible from surface studies before any drilling is done. Wells may then be located with more assurance in that when completed they will have attained their objectives and thus afford the best possible test of the area in which they are situated.

Oil producers are today expending large sums in the search for and development of new oil fields. Confronted with the necessity of discovering and developing 1,000,000,000 bbls. of new production each year, in order to maintain our rather slender petroleum reserve, producers are vitally interested in any method or device that promises to make such discovery more certain, or that offers a means of reducing the very heavy financial hazard which attaches to present-day petroleum exploration.

During the past few years the Rieber Laboratory at Los Angeles has developed and placed in the field a radically new geophysical system which they have termed the Sonograph. Several fully equipped geophysical parties are now working with this new method in prospective areas in California and in Texas.

The Rieber Sonograph differs from its predecessor, the reflection seismograph, not only in the character and appearance of the original records made in the field, but also in the method of analyzing and interpreting these records. Impulses are generated in the earth by explosions, but, instead of being received on geophones of the usual patterns, the Rieber method uses a device termed a "receptor," in which a piezo-electric quartz crystal transforms a selected part of the earth vibrations into electric waves. These waves are then passed through a specially controlled amplifier, and finally recorded on a strip of motion picture film.

The appearance of this Sonograph film differs radically from the usual seismograph record. Instead of earth motion in the familiar form of wavy lines, the film preserves a selected portion of these impulses as variable density wave trains in a form comparable with the "sound tracks" on a motion picture sound film. A field truck carries 10 receptors, which are placed in shallow holes at the surface, and arranged in a special pattern with respect to the shot holes. Insulated cables carried by the truck connect these receptors to the amplifying and recording equipment in the operating compartment. Vibrations sent in by each receptor are recorded as a separate sound track, 10 such tracks being placed on a strip of motion picture film, together with an additional track for a tuning fork record to indicate time intervals, and another such track on which the instant of the explosion is recorded.

*RECEPTOR—Square case contains first stage of amplifying channel through which impulses picked up from earth pass*

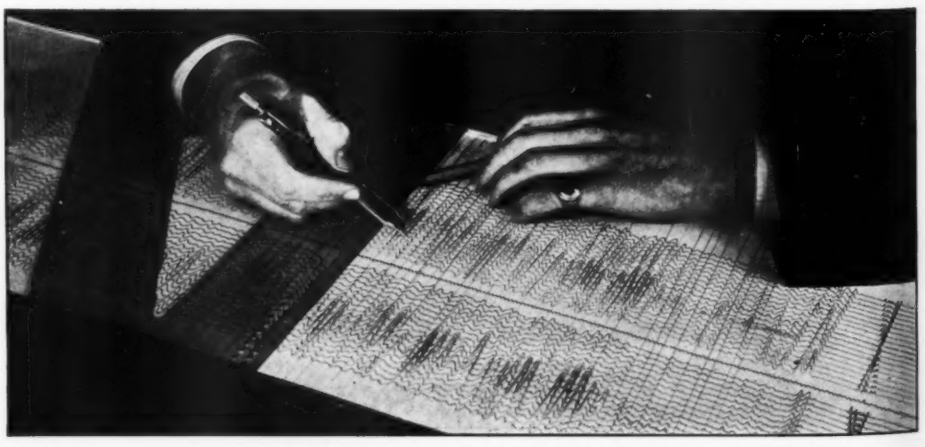
These film records when taken are developed in the truck and inspected by the operator. Little, if anything, can be learned about the nature of the reflected waves by such an inspection, but it is definitely possible for the operator to tell, by looking at a record, whether it is of reasonably good quality and, further, whether it contains vibrations extending over a suitable length of time. Beyond these two facts, nothing further need be known until the record reaches the office.

Here the film is passed through a special piece of apparatus termed the Sonograph analyzer, which, in effect "reads" the film and determines what waves may be present.

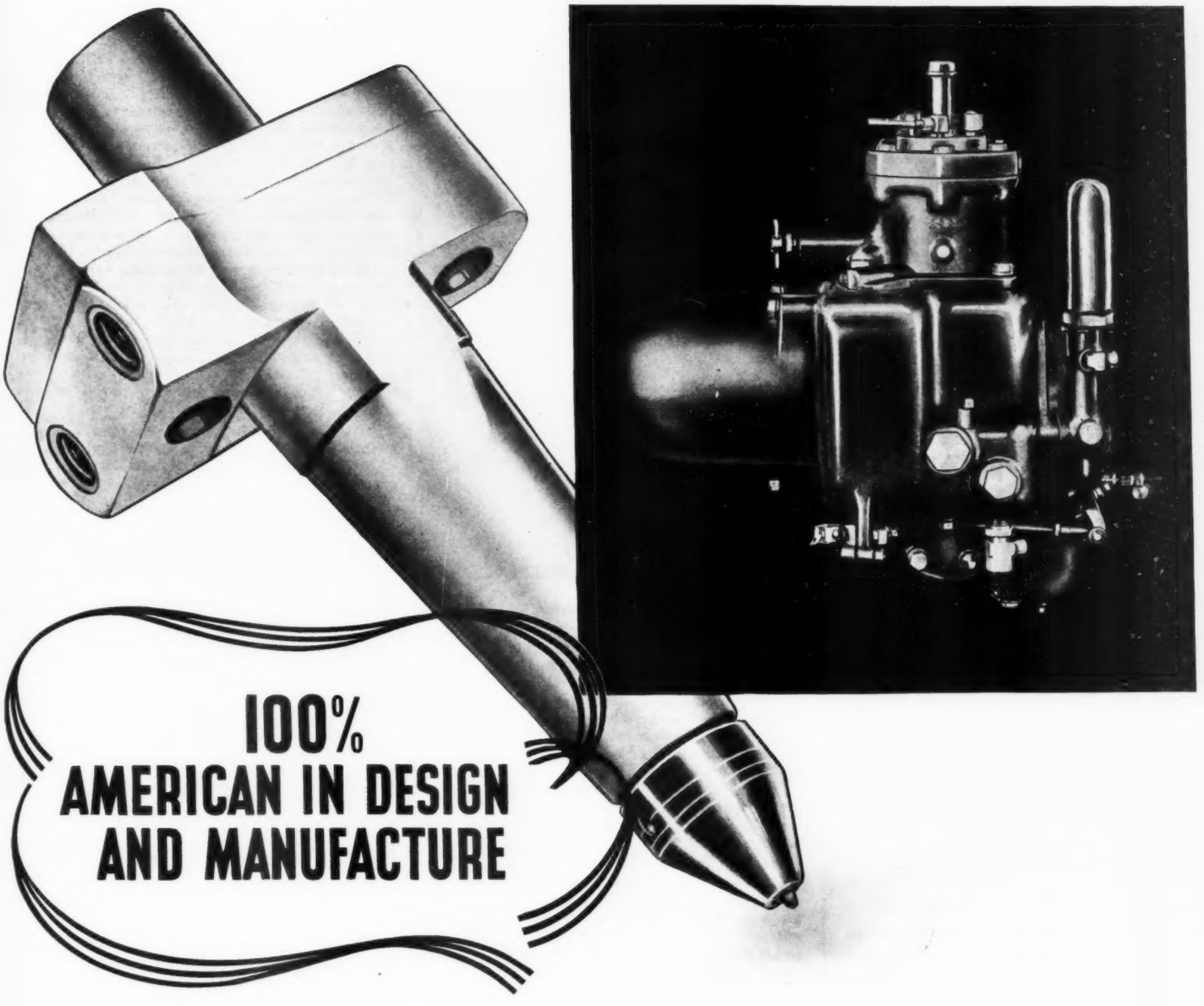
### USE OF ANALYZER

In operation, the film is drawn through the analyzer, which is set to translate from the film upon a paper record only the waves which come to the surface from some predetermined direction for which the analyzer has been set. This paper record is made by an ink pen in the analyzer, which resets itself, at the end of each passage of the film, to select only waves from another known direction different from the first. In practice, the film passes repeatedly through the analyzer, and for each passage a wavy line is drawn on paper. As many as 40 such lines may be required to completely analyze one film.

The accompanying illustrations show some of the various pieces of apparatus, and the successive



*Picking wave groups from an analyzer record*



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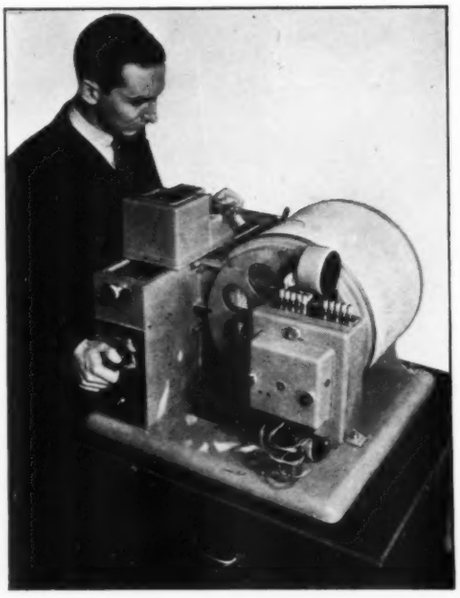
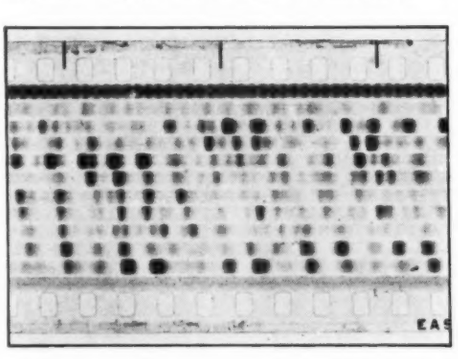
steps involved in making and analyzing these records.

The analyzer strip with its ink records is finally given to an experienced operator, who identifies and marks all of the individual reflected waves which can be identified on the strip, and assigns to each a time of arrival and a direction of arrival. Geometrical plotting, and the use of various graphic and mechanical short cuts, permits the data from this strip to be converted into subsurface information of extreme value to the geologist and the petroleum engineer, although in interpreting the final picture all geological factors need to be taken into account, and it is, therefore, essential to employ in this connection an experienced geologist thoroughly familiar with the locality and the conditions.



*Sonograph analyzer*

In research incidental to the development of the Rieber method, small laboratory models were made, involving complex structural features containing faults, steep folds, overlap and the like, and a technic was developed* by which miniature explosions caused elastic waves to strike these structural models and rebound. Photographs of these actual waves were taken, and, as a result of these tests, it was found that a large variety of structural conditions caused interference between various groups of waves. It was likewise found that faults particularly could be the sources of diffracted waves, not heretofore recognized generally in reflection shooting.



*Variable density field record*

The purpose of recording these waves on film and later analyzing them, is to separate such interfering wave patterns into their component parts in a manner which can be ultimately seen clearly on the analyzer strip with its ink record.

An addition claimed for the method is, accordingly, that it is able to obtain specific information near faults, and under other structural conditions where earlier methods were unable to avoid confused wave patterns.

Another advantage of the system is the almost automatic and mechanical character of the recording and analyzing process. Personal judgment and the human equation do not enter into the routine procedure to any important extent until the analyzed records have been resolved to disclose the positions of the subsurface reflecting points.

Developments in application of geophysics to oil finding have been progressive. One method after another has had its vogue and made its contribution to our oil reserves. Further progress requires new and improved methods or superior technique in the manner of application or system of interpretation of results. Many of the more promising prospective areas have been explored time and again by different methods, more recent, improved methods succeeding where the earlier, more primitive methods have failed. The Rieber system thus affords a new approach to some of the more complex situations that have proven troublesome in some of the earlier explorations.

It is interesting to speculate on the future possibilities and limitations of geophysical methods of exploration. It has recently been suggested that overemphasis has been placed on the structural aspect of oil accumulation; that petroleum exploration has been directed almost exclusively to the location of favorable structures, whereas it seems likely that lateral variations in lithologic character of reservoir rocks may afford opportunity for trapping of oil in deposits of commercial proportions, even in the absence of closed structures of anticlinal form. It is quite within the realm of possibility that geophysical science will eventually be developed to a point where such lithologic variations can be recognized in surface studies.

*Inspecting field record*

Thus far, geophysics has been employed chiefly as an aid in geologic exploration, but it would also appear to have interesting possibilities for use in

*See article by Frank Rieber in "Geophysics," Vol. 1, No. 2, issue of July, 1936.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more detailed studies of previously discovered fields in process of development. The identification of minor faults, which, perhaps, do not extend to the surface and yet are of sufficient expanse to divide a pool into essentially different and distinct drainage blocks, is important. They doubtless occur in many fields, and yet may be very difficult to recognize and locate with certainty during the early development period of a field.

Local irregularities in dip and strike of beds are often of importance in suggesting extensions of the productive area of a field in areas not disclosed by earlier drilling. It is perhaps not too much to hope a geophysical method may yet be found that will be capable of locating edgewater lines marking the limits of production in newly discovered fields.

## DEEP WELLS TO BE DRILLED

*(Continued from Page 49)*

through the use of these devices will prove valuable in correlating formations.

The well-surveying instruments can also be used if it is necessary to deflect the hole from the vertical course. By the use of the surveying instruments and tools used to deflect the path of the drill, in any desired direction and at any predetermined angle of deflection, the hole can be turned to explore any area adjacent to the well.

When the bore hole is finished and before casing is run it is customary to make an electric core log of the formations penetrated. It is also good practice to secure temperature gradient records of a well of this type. By the use of the electric coring device it is possible to record all strata penetrated and at the same time secure information as to saturation, porosity and permeability. These records will be compared with the driller's and geologist's logs and will form a very valuable record of all characteristics of the formations penetrated.

The temperature gradient records will prove of value in studying general regional characteristics, because, if these temperatures show marked changes from normal, these changes may be important clews in the study of stratigraphy.

In drilling a well of this kind carefully prepared mud-laden fluids will be used to prevent the flooding of permeable formations with foreign material and sealing them off. To complete a well of this type a controlled mud fluid is very essential and with the present knowledge of the chemistry of muds it will be possible to have available at all times drilling fluids of proper characteristics for each formation penetrated.

While this article outlines briefly the various methods and devices now available for drilling deep wells for the purpose of securing stratigraphic information there are other refinements available which can be applied to the mechanical and technical details of this work so it is now possible to follow up carefully worked out geological recommendations with good exploratory well records and in this way it will be possible to build up records which will ultimately indicate the location of new oil reserves.

## Turner Valley Conservation

EDMONTON, Alberta.—Announcement has been made by N. E. Tanner, minister of lands and mines for Alberta, that the provincial government will investigate wastage of gas in the Turner Valley field, to determine the necessity of conservation regulations. A system of gas quotas based on production figures may result.

The field has approximately 76 producing wells, and though recent completions are crude producers, the daily gas wastage is around 240,000,000 feet, estimated sufficient to supply 12 cities the size of Calgary.

## San Antonio Geologists

San Antonio Geological Society has elected the following officers for 1937: President, Harry H. Nowlan, Darby Petroleum Corp., San Antonio; vice president, W. A. Maley, Humble Oil & Refining Co., Corpus Christi; secretary-treasurer, Stuart Mossom, Magnolia Petroleum Co., San Antonio; member of the executive committee, C. C. Miller, Texas Co., Corpus Christi.


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# Industry Recognizes Need for Geologists

By L. G. E. BIGNELL

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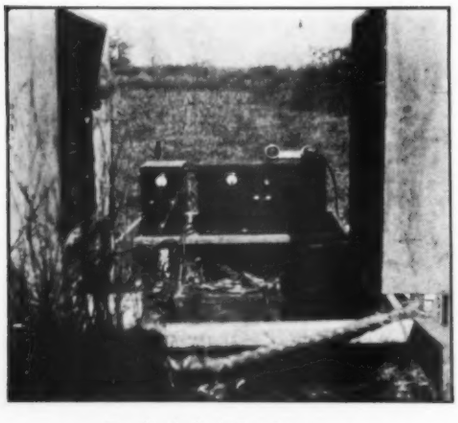
*Barge ready to unload*

*Swamp buggy used by crew*



*Geophysical station in swamp*

With the increased activity in all industries there is greater demand for technically trained men and women. It is becoming apparent the supply of persons equipped by education and training to carry on these special tasks is limited. During the period of less activity fewer persons were technically trained and students completing college courses finding it difficult to find employment within their chosen professions sought employment elsewhere.

While this condition is common to all industries it is becoming very evident the oil industry will have difficulty in building up scientific and research organizations so much needed to carry on and direct the work of finding new oil reserves. The petroleum geologists recognize the need for augmenting both field and office staffs so more detailed work may be done in study of areas for clues to hidden oil fields.

There has been considerable discussion before meetings of associations and societies and in trade journals on the methods to be applied to find these needed oil reserves as it is generally admitted they are not going to be found by any simple procedure. To obtain the opinion of heads of geological departments for large and small oil companies the question "How will the geologist proceed to find new oil fields?" was asked and an attempt is made to outline the answers.

### *CHANGE IN TECHNIQUE*

It was freely conceded by all geologists interviewed there must be some changes in technique if new fields of appreciable size are to be found. Some time ago the several oil provinces were thoroughly checked for evidence of surface structures and later worked over by geophysical methods and a few additional fields were discovered. However, the total reserve found has not been keeping pace with production and it is believed some new methods must be applied to find larger reserves in keeping with the present demands.

Many oil fields have been found by applied geophysics but there are probably more structures mapped by geophysics that have proved barren of production than those in which oil was discovered. This is not unusual, for the geophysicist maps only the subsurface structures and it remains for the drill to prove whether the structures have been charged with gas and oil.

During the intensive hunt for oil now going on for about three years many areas have been drilled where the geophysical survey did not indicate structure of sufficient size to make the finding of an oil field probable and where a closure of less than 100 feet was common and in many instances the closure did not exceed 50 feet. When from 20 to 30 feet should be allowed for normal probable errors the area remaining which reasonably might be expected to contain gas or oil is very small. However, such small structures have been drilled because of the investment already made in leases and other items of expense and because the executives for the companies did not want to pass up any possible new reserve.

During the past five years it is probable every possible area where new oil might be found has been worked over by geophysical methods and in many regions the geophysical work has been done several times and by different methods. This intensive exploration has cost the industry millions of dollars and now there are very few companies with untested acreage, particularly acreage over structures of any great promise. The exceptions to this general statement will be along the Gulf Coast where there are several known salt domes still to be tested with the drill.

### *ADDITIONAL DATA NEEDED*

With this rather intensive geophysical campaign complete in areas where there has been sufficient stratigraphic data available to permit of proper interpretation of geophysical records the next problem confronting the geological departments is to determine where next to carry on field work. Some heads of geological departments suggested geophysical work may wait until wildcat wells are completed and stratigraphic information made available to be used as controls for future geophysical prospecting.

This brings the new development to a point where it is difficult to recommend places to drill wildcat wells because there are no reliable geophysical data at hand and it is not easy to get good geophysical data without stratigraphic control obtained by drilling wildcat wells.

As one chief geologist pointed out, the industry is entering a new era where the geological department will have to gather every bit of information concerning an area and present it in conclusive form to the executive and explain that while the data are not complete and do not indicate good drilling sites so far as probable discovery of new oil is concerned they do represent the best information the geological department can present and it is recommended well or wells be drilled at the locations indicated in order that fresh stratigraphic data may be made available.

It is the opinion of this geologist the industry is ready for this kind of wildcatting. It will not be the old hit or miss type of prospecting but rather a scientific form of wildcatting in which the geological department has combined the skill of the geologist, paleontologist, geophysicist, mineralogist and all other experts and has studied the available published information on the region and has then drawn conclusions and made recommendations based upon the desire to get specific data which will serve definitely in carrying on future exploratory work.

It is believed executives of major companies will recognize the value of this course when properly placed before them and when it is explained that to recommend additional geophysical work without controls would be of doubtful value.

This type of procedure has been called "exploratory drilling" by Ernest DeGolyer and in drilling this type of well it is not anticipated production will be encountered but it is very definitely planned to secure from a careful study of the samples from the hole a very detailed knowledge of the underground conditions existing in that area, and, after several of these "exploratory wells" have been drilled, correlation will be made and in this manner check will be obtained against general regional geology.

Another geologist emphasized the need for more detailed work in both field and main office. Com-

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pany executives have been so anxious to find oil during the past two or three years the geological departments have been required to make hurried reports upon field problems and little or no time has been devoted to careful study of data at hand. This lack of attention to details applies equally to the field men who should have opportunity to become conversant with all local conditions and to the home office geological department where the employes should be versed in detailed knowledge of conditions in all areas in which the company contemplates carrying on operations.

### *BETTER DETAILING NEEDED*

Instead of these conditions prevailing it was pointed out by two or three geologists it was their duty during the course of a business day to give advice upon properties in regions as widely separated as Southwest Texas and the western part of Kansas with one or two additional opinions upon properties in North Texas, West Texas, the Panhandle and Oklahoma thrown in for good measure. The geological departments are rendering exceptionally good service under these trying conditions but it is contended much better service is possible if the department is permitted to move more deliberately and be permitted to take more time to look up references and data available in many instances but requiring time to actually correlate and compile.

This recommendation would lead to the increase in the size of geological departments. Just where the additional employes are to come from is not known, for very few geologists are now without employment, unless a few of the older members of the profession are not actively employed but doing consulting work. It might be the industry could well employ these older geologists for they have a vast fund of geological information and, better still, years of experience and it would seem they would make excellent men to serve in a consulting capacity to the younger geologists and add their advice and experience to the opinions required by executives and department heads to permit proper judgment to be passed upon the many problems confronting them each day.

For field work the younger men and women should be available. It will be advisable for the field crews to take more time to study the problems and correlate the data for the specific areas under consideration. When these field reports are completed they should be passed to the head offices for further check and study before final opinions are given.

### *COMPETITION KEEN*

The present haste in handling geological matters is a very definite indication of the spirit of rivalry among the companies to acquire anything that appears to have merit. The eagerness to acquire acreage is akin to the desire of the pipe line companies to secure connections to new and old wells. These methods may answer in some degree the immediate problems but it is said they will not serve to answer the major problem of finding in excess of a billion barrels of new oil reserves in this country each year.

If the U. S. Geological Survey were properly financed by congress to carry on the regional geological work, and the state geological surveys cooperated with the U.S.G.S. in work within the boundaries of the state it would be possible to bring together an enormous volume of data which could be made available for detailed study and exploration for oil. With the preliminary work completed the oil companies could proceed to detailed geophysical exploration and also drill test holes to secure stratigraphic data and by this means locate new reserves normally difficult to find.

In addition to finding geologists to increase the staffs of both the U.S.G.S. and the oil companies the need for specialists is pressing and it is understood many vacancies remain unfilled because qualified operatives are not available.

It has also been noted of late the supply of petroleum engineers has been depleted and the same condition exists in many other branches of the industry and many departments are actually carrying on study courses training men for new duties.

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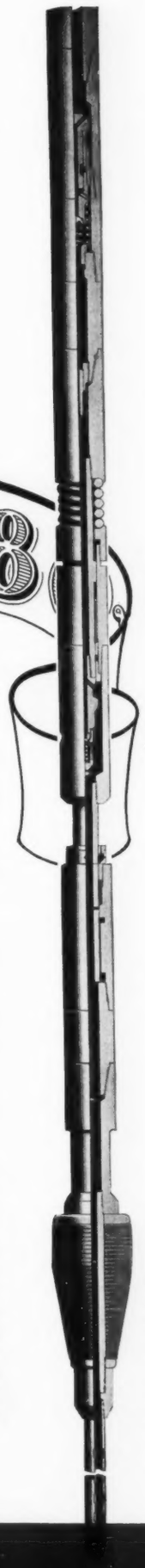

*The Johnston Tester is manufactured under the following United States Letters Patents: 1790424, 1709940, 1715509, 1842270, 1901813.*

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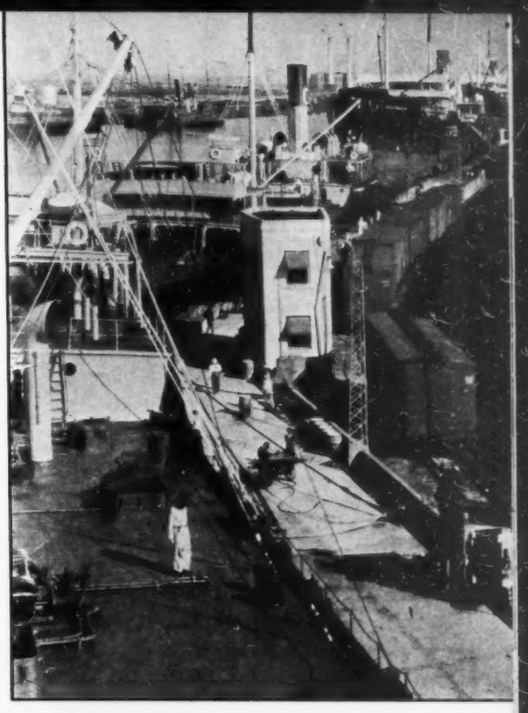
# Safety Measures Are Widely Employed at Gulf Docks

By K. S. MOSS
Gulf Oil Corp.



*The 3,000-foot concrete wharf at the Port Arthur refinery of the Gulf Oil Corp. Men and equipment employed in moving large volumes of refined products are safeguarded by an efficient alarm system throughout the length of the dock*

In line with a policy of practicing utmost safety throughout its refineries, the Gulf Oil Corp. of Pennsylvania has taken advantage of many measures in controlling and eliminating fire hazards encountered in handling petroleum products. A notable example of this policy is found in the largest Gulf refinery, located on the Gulf of Mexico at Port Arthur, Tex. The greatest volume of finished products for that plant is moved to coastwise domestic and foreign markets by deep water, resulting in an extensive system of docks and loading lines. Operations along the waterfront have been placed under the protection of an emergency fire alarm and flow control system which goes a long way toward the prevention of accident and fire in that section of the refinery.

*Master alarm boxes such as these are situated at a number of points along the dock*

Since most of the bulk shipments from Port Arthur are made by tanker, every means has been provided to enable the ships to load in the shortest possible time. At the 3,000-foot concrete wharf, where nine ships can be serviced simultaneously, a network of pipe lines from pump houses and storage tanks converge. Through these lines, thousands of barrels of oil and gasoline are moved hourly into the loading vessels.

Flexible hose are used to connect the vessels' tanks to the ends of the lines, but before this connection can be made, the ships must be grounded electrically to the dock with a special type of copper cable. This is necessary so that any static electrical charge present in the riggings may be discharged harmlessly and preclude ignition of volatile vapors.

Despite the caution exercised while loading vessels, accidents are not totally unknown. A hose may burst without warning, a gasket in a line might suddenly fail, or the tanks may become filled more quickly than anticipated, and before the deckman or dock foreman could phone the pump houses to stop the flow, hundreds of gallons of oil or gasoline would have been wasted, subjecting a wide area to danger of fire and explosion. A rapid and efficient method of cutting loading streams will greatly improve safety conditions.

In order to notify instantly the men at the pump house at times of emergency at the docks, a Gamewell fire alarm system was installed. This directly connects the wharf with all pump houses handling cargoes to ships, but it is not linked in any way with the refinery fire department. Its sole purpose is to shut down automatically all electrically operated pumps and to notify steam pump operators that an accident has occurred.

The system consists of a central battery and charging unit, located in No. 1 power plant, together with a number of master alarm boxes mounted on telephone booths along the pier. Each master alarm is equipped with an auxiliary box, which always is placed within reach of the deckman while the tanker is being loaded. In addition to the boxes at the wharf, a master box has been placed near the main office. This unit has two auxiliary extensions, one in the plant superintendent's office, the other in the quarters of the marine agent, extending use in case of emergency to these points. Three standard fire alarm boxes are situated on an avenue paralleling the waterfront, for use in case it is impossible or inconvenient to reach the boxes at the pier.

The operation of the system is quite simple. In case of threatened fire or overflow, the deckman or dock foreman opens the door of the auxiliary or master box and pulls down the trip lever. This opens an electrical circuit, allowing current to flow through a coil and to start a toothed wheel rotating in the alarm box. As the teeth in the wheel pass under a small lever, the current is interrupted at definite intervals.

At the first operation of the alarm mechanism the relays in the pump houses, normally held close by a current through the system, are opened. This causes the main power switches to fly open, thus shutting down all electrically powered pumps. In the pump houses operated by steam, a large gong is struck a single stroke. This warns the pumpers of an accident and signals them to stop the flow to the wharf immediately. Cargoing cannot be continued until orders are received from the dockmaster.

At the instant the alarm is sounded, two red warning lights glow in the power plant and the operator records the exact time the box was pulled. Immediately he reports the time and box number to the electrical shop office where a record of all operations is maintained. At the end of each week the chief electrician submits a detailed report to the office of the marine agent where it is checked against the findings of a stop clock which automatically records the time of all alarms.

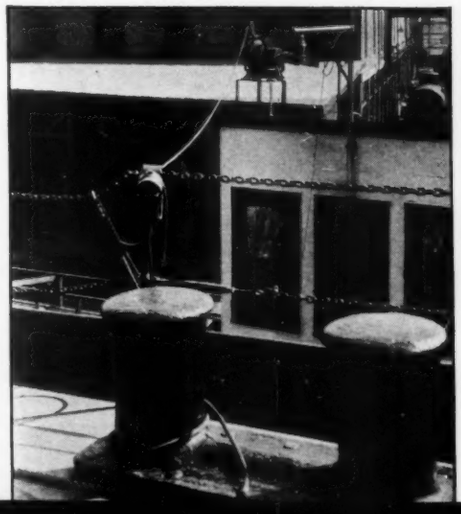
When an alarm is turned in, a register in the plant superintendent's office punches a series of holes in a paper tape, corresponding to the code number. Four complete sets of box numbers are recorded before the mechanism stops.

After each alarm an electrician carefully goes over the entire system, rewinding all gong mechanisms, and then resetting the master box and main switch relays. The system must be ready for emergency operation at all times to be effective.

An interesting feature of the system is the fact that even though more than one box is turned in, all are successively received and recorded. When the mechanism in the first box starts, it blocks all others, but after four revolutions it stops and the next box which has been turning its code wheel is unblocked and its code is transmitted. This operation is successively repeated for as many boxes as might be turned in at the same time, provided the last box pulled does not turn its code wheel more than 32 revolutions while waiting to send its signal.

The emergency system is but one of the many safety devices employed at the Gulf refinery for the protection of life and property. During the several years that it has been in operation on the docks, the installation has proven invaluable as a safety device.

*An auxiliary alarm box is installed on the deck of each loading tanker, facilitating rapid shut down in case of accident aboard ship. The auxiliary is mounted behind the left post, with the line leading to the fixed alarm box*



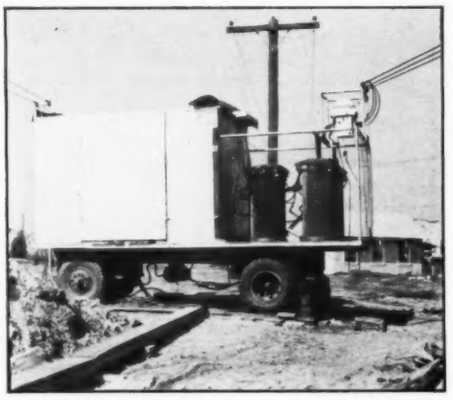
# OPERATING IDEAS

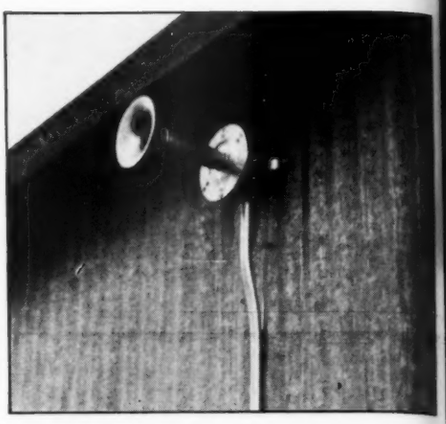
## Relief Valves on Tank Battery

On its tank batteries in the Cleveland County field of Oklahoma one large oil company has changed the hook-up on its vapor seal tanks so that the two vapor relief valves can be operated from the ground. The vapor line is extended beyond the edge of the two outside tanks of the battery and relief valves placed in the line. An extension is attached to the valve wheel so that the valve can be operated from the ground. Thus the valves may be operated at both ends of the tank battery and the operator is not required to climb the tank to vent the tank or close the relief valve as is required when the relief valves are placed on top of the battery.

## Truck-Mounted Transformer

In use with an electric drilling rig in the new field at Wilmington, California, is this trailer on which are mounted transformers and other electrical equipment used for drilling with purchased power. The cables at the upper right side of the trailer are connected with the power line. The cables between the trailer and the drilling motors are concealed by the wooden conduit in the foreground.



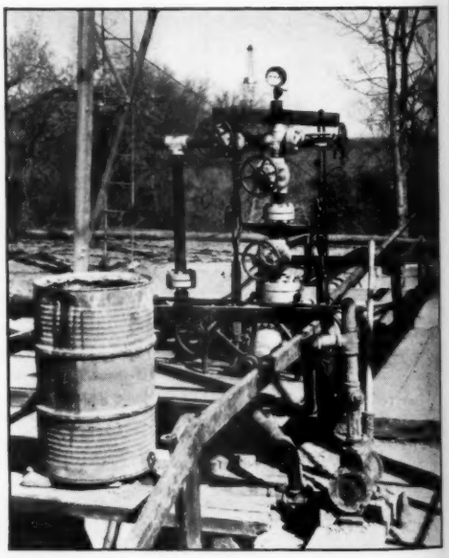


## Electric Horn for Hot Well

This electrically operated horn is sounded automatically whenever the water level in the hot well rises 6 inches above the pump suction or drops to a point where the depth of the water in the well is only 22 inches. Between these two points the float, actuating the alarm, rises and falls in a safe range of 18 inches. This horn is in use in a compressor and generator plant and has proved very satisfactory as a safety precaution.

## Sealing Off Surface Leaks

A device for sealing off surface leaks at a high-pressure well in Cleveland County, Oklahoma, has been improvised by one oil company operating in that field. A "one-armed Johnny pump" connected to a 50-gallon barrel is used to pump heavy mud around the surface casing to seal off the frequently appearing leaks which are caused by a tremendous gas pressure and the resulting vibration. The mud preparation is mixed in the barrel and pumped to the casing whenever needed to plug a leak.



## Auxiliary Equipment Compactly Mounted on Skid

Reflecting the growing trend toward compact portable equipment for use in the oil fields, a drilling contractor operating a diesel-electric rig near Orlando, Okla., has assembled the unit shown in the accompanying photograph. The following equipment is mounted on the 8-foot skid: Air tanks and compressor, generator and engine for emergency lights, one large circulating-pump for pumping water to the cooling tower, and one small pump for supplying pressure on the derrick floor. The unit is easily transported in a truck when changing locations.

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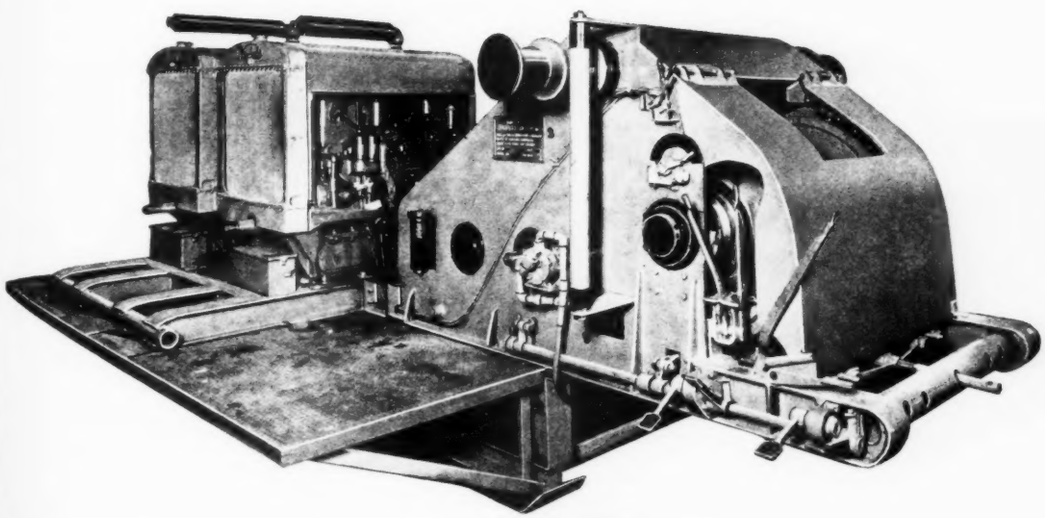
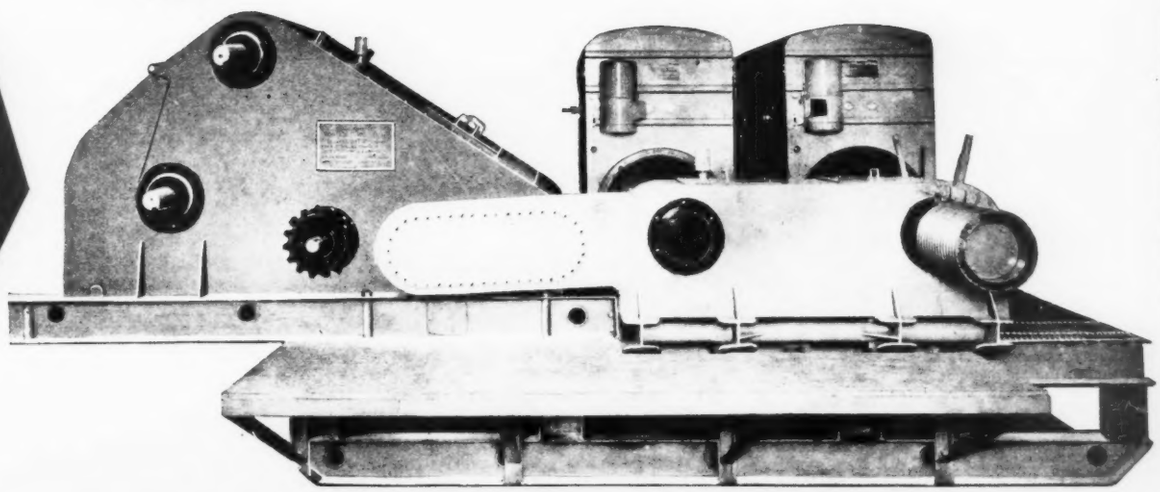


Front view of Draw Works, showing controls and compact design.

Side of Draw Works, showing oil-proof case which houses drive between engines and drive to Draw Works.



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# Chemical Composition of Petroleum Fractions

By YU. K. YUR'EV and P. I. ZHURAVLEV
Moscow State University, Moscow, U.S.S.R.*

The investigation of the chemical composition of narrow petroleum fractions for the purpose of determining the content of hydrocarbons of the various classes—aromatics, naphthenes including those of the hexahydroaromatic as well as the cyclopentane series, and paraffins—includes the following:

1. Method of determining the critical temperatures of solution in aniline of the fractions tested, followed by computation (using experimentally determined coefficients[1]) of the aromatics, the total naphthenes, and the paraffin hydrocarbons.

2. The method of catalytic dehydrogenation originally developed by N. D. Zelinskii[2], which makes it possible to determine the content of hexahydroaromatic hydrocarbons in the fraction by converting them to aromatic hydrocarbons in the presence of catalysts.

The combination of these two methods makes it possible to determine directly not only the aromatics but also the hexa-hydroaromatic hydrocarbons in petroleum fractions boiling below 300° C.: the content of naphthene hydrocarbons of the cyclopentane series is computed with the aid of the aniline coefficients[1]: and the paraffin hydrocarbons are computed from the difference.

However, in applying the above mentioned combination of the method of critical solution temperatures in aniline with the method of catalytic dehydrogenation for the investigation of the chemical composition of petroleum fractions, the question was left open as to how to compute the content of naphthene hydrocarbons with five-membered rings and paraffin hydrocarbons.

The two possible procedures are:

1. Upon determination and removal of the aromatics the dearomatized fraction is subjected to catalytic dehydrogenation. The amount of aromatics formed thereby, after having been converted to $C_nH_{2n}$, will indicate the content of hexahydroaromatic hydrocarbons in the fraction. The content of hydrocarbons of the pentamethylene series is computed from the aniline point of the dearomatized product: the content of paraffin hydrocarbons is found by the difference.

2. Upon determination and removal of the aromatics, the aniline point of the dearomatized fraction is used for computing the total naphthenes (six- and five-membered), and from the difference the content of paraffin hydrocarbons is obtained. Thereafter, the six-membered naphthenes are determined by catalytic dehydrogenation and, by subtracting the amount thus found from the value previously found for the total content of naphthenes, the content of five-membered naphthenes in the fraction is obtained.

The following two schedules for computing the composition of petroleum fractions will explain the above description:

(1)

1. Determination and removal of aromatics from the fraction ..... (a)
2. Dehydrogenation, and determination of hexahydroaromatic hydrocarbons ..... (b)
3. Computation of the content of pentamethylene hydrocarbons by the aniline point of the dearomatized dehydrogenation product ..... (c)
4. 100—(a+b+c)=e
   i.e., the content of paraffin hydrocarbons.

(2)

1. Determination and removal of aromatics from the fraction ..... (a)
2. Computation of total naphthenes by the aniline point of the dearomatized fraction.... (d)
3. 100—(a+d)=e.
   the amount of paraffin hydrocarbons.
4. Dehydrogenation, and determination of hexahydroaromatic hydrocarbons ..... (b)
5. d—b=c
   i.e., the content of pentamethylene hydrocarbons.

The first schedule was used by one of the authors in investigating the chemical composition of kerosene fractions from Chusovskie Gorodki (Ural[3]) crude, and of crude oil from Sterlitamak[4], Ukhta heavy crude[5], and Kalin[6] crude. Computation according to the second schedule often gives quite appreciable discrepancies in values for the content of five-membered naphthenes and paraffin hydrocarbons.

In their study of the chemical composition of crude oils from Balakhanui-Sabunchi, Surakhanui, Bibi-Eibat, Dossor, and Grozny nonparaffinic and paraffinic (from gushers) crudes, Doladugin and Egorova[7] apparently were using likewise the first schedule of computation. It was not possible to check accurately the values given by said authors according to our first schedule, because of lack of information about some of the constants of the fractions studied by them.

A computation carried out by us according to the second schedule, using the constants of the fractions cited by the above mentioned authors in Table 114, p. 178, indicates a considerable discrepancy with reference to five-membered naphthenes and paraffin hydrocarbons between our values and those of Doladugin and Egorova. For the group of oils studied at the Grozny Sci. Res. Inst. this becomes clearly apparently from the comparison of the values cited by Doladugin and Egorova[7] with those given by Sakhanov and Virabyantz[8].

In investigating the chemical composition of these crudes, the last mentioned authors were interested only in the total content of naphthenes as determined by the aniline point of the dearomatized fractions (i.e., Schedule 2).

Table 1 show comparative data on the content of five-membered naphthenes and paraffin hydrocarbons in fractions of various crudes, computed by either one of the above schedules.

It appears that the results obtained in the computation by the two schedules sometimes are in agreement with each other, but frequently the discrepancy is of the order of 4 to 6 per cent, and quite frequently are also differences by as much as 10 to 15 per cent. It must be emphasized that this refers to fractions boiling below 150° C., for which the coefficients are regarded as definitely established and therefore there should not be any discrepancy. With reference to frac-

*Spheroids and tank battery recently erected at Arkansas Fuel Oil Co.'s Rodessa, La., gasoline plant for storing natural gasoline*

*Translation by American Chemical Society from Neft. Khoz. v. 17, No. 6: 62-5 (June, 1936).

Note: The petroleum division of the American Chemical Society has undertaken to translate a limited number of foreign technical articles upon topics of interest to the American petroleum industry. The above paper represents one of those articles. The petroleum division assumes no responsibility for the facts and opinions presented in this paper nor does it necessarily endorse statements made therein.

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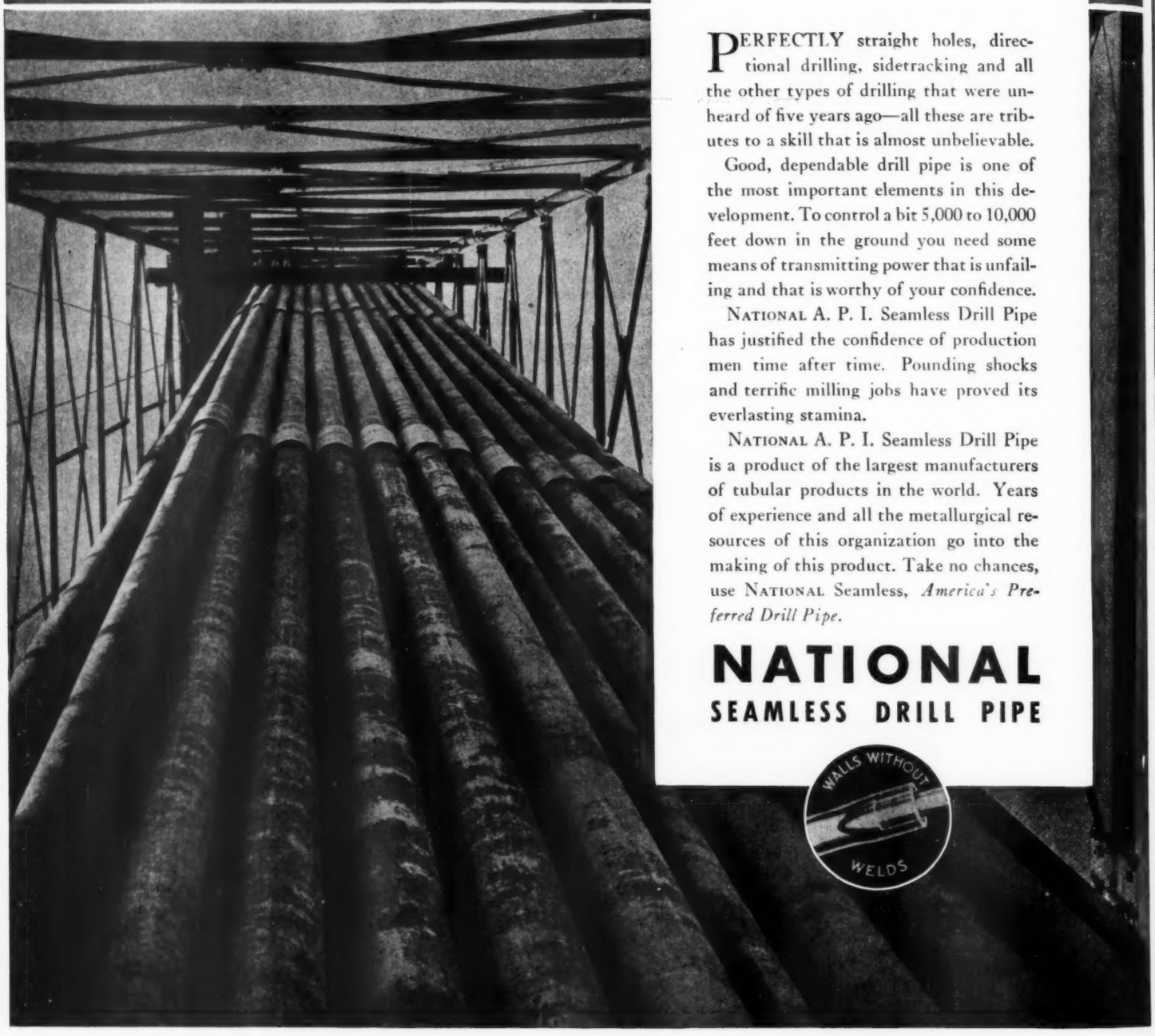

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tions 150-300° C., both quite large differences as well as good agreement may be observed. However, in the absence of more accurate coefficients than the coefficient of Carpenter, the values of five-membered naphthenes and paraffin hydrocarbons in these fractions should be regarded as rough approximations.

Taking into account the above considerations we decided to prepare artificial petroleum fractions from individual hydrocarbons and to study their composition by the combined method of critical temperatures of solution in aniline and catalytic dehydrogenation so as to find out which one of the above mentioned schedules of computation would give the most accurate results.

Furthermore, it appeared to be of interest to ascertain the extent of error in determining the content of hexa-hydroaromatic hydrocarbons by the method of catalytic dehydrogenation evolved by N. D. Zelinskii, using ordinary platinum-carbon catalyst (10-20 per cent Pt.) and repeatedly recycling the fraction over the catalyst until the catalysate has a constant refractive index, i. e. in conditions which prevail in the ordinary catalysis of petroleum fractions.

Besides, the investigation was expected to furnish an answer to the question raised by S. S. Nametkin[9] in connection with the recent work of Zelinskii and Kazanskii[10] on the destructive hydrogenation of hydrocarbons of the cyclopentane series over platinum on carbon carrier at 300° C. In these conditions the pentamethylene hydrocarbons suffer a rupture of the ring and are converted to aliphatic hydrocarbons.

In the catalytic dehydrogenation of petroleum fractions, the pentamethylene hydrocarbon constituents thereof are placed in just these conditions which are favorable to the rupture of the ring, the conditions being characterized by an excess amount of hydrogen liberated due to dehydrogenation, by the presence of the platinum catalyst, and high temperature of about 300° C.

According to Nametkin, "these new facts compel us to revise all the experimental material and the conclusions available in the literature of the past 10 to 15 years on the question of the composition of various petroleum fractions on the basis of their catalytic dehydrogenation."

Our investigation was supposed to give a definite answer to the important problem whether or not the method of catalytic dehydrogenation proposed by N. D. Zelinskii is suitable for the purpose of analyzing petroleum fractions.

### *EXPERIMENTS*

The artificial petroleum fractions were prepared from a number of hydrocarbons synthesized by us or obtained from other sources (Table 2).

In preparing the artificial fractions we endeavored to obtain fractions similar in composition to fractions from Surakhanui crude. Table 3 shows the composition of the artificial fractions prepared by us.

The determination of the chemical composition of these artificial fractions was carried out as follows:

After determining the characteristic constants of the fractions and their critical temperatures of solution in aniline (using aniline of —6.4° C. solidification point), we removed the aromatic hydrocarbons from the fractions boiling below 150° C. by shaking them in the shaker for half an hour with half the volume of $H_2SO_4$ plus 7 per cent $SO_3$, and settling for two hours. The fraction 150-200° C. was treated with twice the volume of sulfuric acid (monohydrate) in similar conditions.

The dearomatized fractions were separated from the layer of sulfonic acids, scrubbed with water, neutralized with 10 per cent caustic, again scrubbed with water and finally dried over calcium chloride. All the constants of the dearomatized fractions were determined after drying.

In computing the content of aromatic hydrocarbons we were using for fractions boiling up to 150° C. the coefficients given in the paper of Tilicheev and Dumskaya,[11] and for the fraction 150-200° C. the coefficients of Sakhanov and Virabyantz.[12]

The dearomatized fractions were thereafter subjected to catalytic dehydrogenation by the method of N. D. Zelinskii.[13] Platinized activated carbon with a platinum content of 20 per cent was used as a catalyst. The catalyst was prepared by the method of Zelinskii and Borisov.[13] Dehydrogenation was carried out in a glass tube 10 mm. in diameter over a layer of catalyst 45 c. in length. The furnace temperature was maintained at 310° C., the fractions being fed at the rate of 7-8 drops per minute.

**TABLE 1—RELATIVE CONTENT (IN PER CENT) OF HYDROCARBONS IN THE FRACTIONS**

| Fraction* °C. | Schedule 1: Hexahydro-aromatics | Schedule 1: Other cyclic saturates (penta-methylenes) | Schedule 1: Total naphthenes | Schedule 1: Paraffins | Schedule 2: Hexahydro-aromatics (penta-methylenes) | Schedule 2: Other cyclic saturates (penta-methylenes) | Schedule 2: Total naphthenes | Schedule 2: Paraffins |
|---|---|---|---|---|---|---|---|---|
| **Sterlitamak crude** | | | | | | | | |
| 60-95 | 5.6 | 12.9 | 18.5 | 71.6 | 5.6 | 19.4 | 25 | 65.1 |
| 95-122 | 12.2 | 15.8 | 28 | 61.7 | 12.2 | 17.8 | 30 | 59.7 |
| 122-150 | 17.8 | 14.1 | 31.9 | 54.7 | 17.8 | 9.7 | 27.5 | 59.1 |
| 150-200 | 22.9 | 14.2 | 37.1 | 35.5 | 22.9 | 1.4 | 24.3 | 48.3 |
| 200-250 | 18.8 | 17.4 | 36.2 | 30.3 | 18.8 | 6.5 | 25.3 | 41.2 |
| 250-300 | 27 | 22.6 | 49.6 | 11.6 | 27 | .... | 19.6 | 41.6 |
| **Ukhta heavy crude** | | | | | | | | |
| 95-122 | 16.5 | 31 | 47.5 | 49 | 16.5 | 27 | 43.5 | 53 |
| 122-150 | 15 | 48 | 63 | 32 | 15 | 36.3 | 51.3 | 43.7 |
| 150-200 | 21 | 64 | 85 | 9.5 | 21 | 67 | 88 | 6.5 |
| 200-250 | 31 | 62 | 93 | .... | 31 | 70 | 101 | .... |
| 250-300 | 44 | 36.5 | 80.5 | .... | 44 | 38 | 82 | .... |
| **Kalin crude** | | | | | | | | |
| 60-95 | 26 | 37 | 63 | 37 | 26 | 40.2 | 66.2 | 33.8 |
| 95-122 | 42 | 29 | 71 | 28 | 42 | 25 | 67 | 32 |
| 122-150 | 43 | 37 | 80 | 17 | 43 | 36.5 | 79.5 | 17.5 |
| 150-200 | 36 | 43 | 79 | 11 | 36 | 45 | 81 | 9 |
| 200-250 | 28 | 38 | 66 | 19 | 28 | 36 | 64 | 21 |
| 250-300 | 28 | 33 | 61 | 18 | 28 | 21 | 49 | 30 |
| **Balakhanui-Sabunchi crude*** | | | | | | | | |
| 60-95 | 33 | 29 | 62 | 38 | .... | .... | 48 | 52 |
| 95-122 | 49 | 27 | 76 | 22.5 | .... | .... | 64 | 35 |
| 122-150 | 40 | 32 | 72 | 24 | .... | .... | 82 | 14 |
| **Surakhanui crude*** | | | | | | | | |
| 60-95 | 37 | 36 | 73 | 27 | .... | .... | 76 | 24 |
| 95-122 | 47 | 33 | 80 | 19 | .... | .... | 81 | 18 |
| 122-150 | 38 | 30 | 68 | 26 | .... | .... | 51 | 43 |
| **Bibi-Eibat crude*** | | | | | | | | |
| 95-122 | 33 | 27 | 60 | 37 | .... | .... | 60 | 37 |
| 122-150 | 20 | 41 | 61 | 32 | .... | .... | 67 | 36 |
| **Dossor crude*** | | | | | | | | |
| 95-122 | 23 | 37 | 60 | 38 | .... | .... | 63 | 36 |
| 122-150 | 33 | 36 | 59 | 37 | .... | .... | 57 | 39 |
| **Grozny nonparaffinic crude—(low-gravity oil from the lower horizon)*** | | | | | | | | |
| 60-95 | 17 | 25 | 42 | 54 | .... | .... | 35 | 60 |
| 95-122 | 29 | 16 | 45 | 47 | .... | .... | 40 | 51 |
| 122-150 | 24 | 23 | 47 | 41 | .... | .... | 33 | 54 |
| **Grozny paraffin-base crude (oil from gushers)*** | | | | | | | | |
| 60-95 | 11 | 26 | 37 | 60 | .... | .... | 34 | 62 |
| 95-122 | 14 | 22 | 36 | 57 | .... | .... | 37 | 57 |
| 122-150 | 8 | 22 | 30 | 61 | .... | .... | 30 | 61 |

*Under Schedule 1 are cited the data of Doladugin and Egorova (Footnote 1, Chapter 6, Tables 114 and 118), while Schedule 2 contains the data of Sakhanov and Virabyantz (Footnote 1, Chapter 5, Tables 101-1 4, 10, 12, 14 and 17.

**TABLE 2—ARTIFICIAL PETROLEUM FRACTIONS**

| Individual hydrocarbon— | Boiling point, °C. | $20\ n_D$ | $20\ d_4$ | Remarks* |
|---|---|---|---|---|
| Paraffins: | | | | These were prepared by the Wuertz method: |
| n-Hexane | 69 | 1.3751 | 0.661 | from n-propyl bromide |
| A fraction of n-heptane | 97–105 | 1.3891 | 0.6920 | from n-propyl and n-butyl bromides |
| n-Octane | 124–125 | 1.3945 | 0.7036 | from n-butyl bromide |
| n-Decane | 173–174 | 1.4126 | 0.730 | by hydrogenation of decylene |
| Aromatics: | | | | |
| Toluene | 109–110 | 1.4958 | 0.8656 | Pure, anal. by Govt. Laborat. |
| Xylene | 136–139 | 1.4963 | 0.8637 | Supplies Bureau. |
| Cymene | 176–177 | 1.4911 | 0.8290 | By dehydration of menthene obtained from menthol by splitting off water |
| Pentamethylenes: | | | | |
| Methylcyclopentane | 71 | 1.4096 | 0.851 | By reduction of unsaturated hydrocarbons obtained by splitting off water from tertiary alcohols which were synthetically produced by the Grignard reaction, using cyclopentanone and the corresponding iodides. |
| Ethylcyclopentane | 103 | 1.4185 | 0.764 | |
| Propylcyclopentane | 129–130 | 1.4250 | 0.7735 | |
| Butylcyclopentane | 155.5–156 | 1.4312 | 0.7839 | |
| Hexamethylenes: | | | | |
| Cyclohexane | 81 | 1.4269 | 0.7785 | By hydrogenation of benzene |
| Methylcyclohexane | 100.5 | 1.4246 | 0.7693 | Kahlbaum |
| Dimethylcyclohexane | 120.5 | 1.4278 | 0.7771 | Kahlbaum |
| Hexahydrocymene (menthene) | 171–172 | 1.4385 | 0.7970 | By hydrogenation of menthene |

*The properties of the hydrocarbons prepared by us exactly correspond to the data available from the literature

**TABLE 3—COMPOSITION OF ARTIFICIAL PETROLEUM FRACTIONS**

| Fraction °C. | Hydrocarbons used— | Weight g | Content* % by wt. |
|---|---|---|---|
| 60–95 | Cyclohexane | 9.8335 | 38.0 |
| | Methylcyclopentane | 10.0846 | 39.0 |
| | n-Hexane | 5.9666 | 23.0 |
| 95–122 | Toluene | 0.9774 | 4.0 |
| | Methylcyclohexane | 13.5936 | 51.5 |
| | Ethylcyclohexane | 6.0761 | 23.0 |
| | Fraction of n-heptane | 5.667 | 21.5 |
| 122–150 | Xylene | 2.6359 | 9.0 |
| | Dimethylcyclohexane | 13.2981 | 45.0 |
| | Propylcyclopentane | 4.9717 | 17.0 |
| | n-Octane | 8.5563 | 29.0 |
| 150–200 | Cymene | 5.4750 | 23.0 |
| | Hexahydrocymene | 8.6640 | 36.0 |
| | Butylcyclopentane | 6.737 | 28.0 |
| | n-Decane | 3.224 | 13.5 |

*In round numbers within 0.5 per cent.

In a preliminary dehydrogenation of dimethylcyclohexane at 305° C. for testing the catalyst, it was found that dehydrogenation takes place to the extent of 90 per cent in a single cycle.

The dehydrogenation products obtained in the first passage over the catalyst were recycled again until a constant refractive index was observed for the product. For this purpose two passages were found to be sufficient.

The dehydrogenation products thus produced gave no reaction with permanganate nor with bromine water, indicating that dehydrogenation was not accompanied by a secondary decomposition reaction.

The activity of the catalyst was tested after each experiment, and was found to remain un-

*(Continued on Page 70)*

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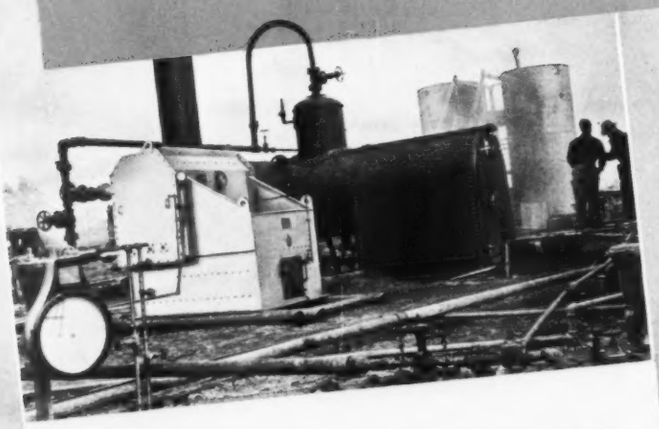

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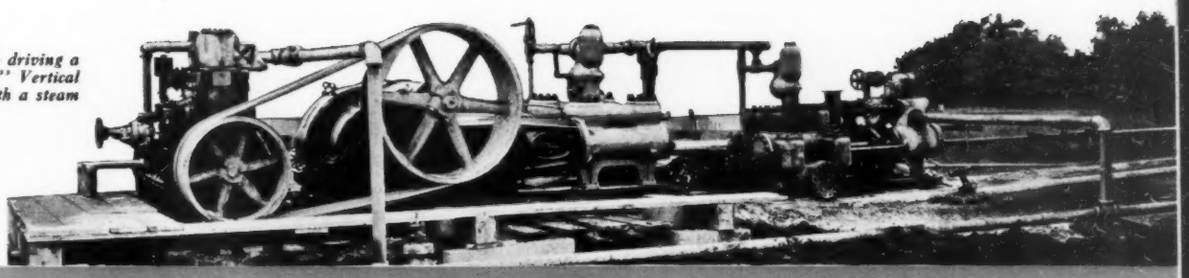

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**TABLE 4—RELATIVE CONTENT OF FIVE-MEMBERED AND SIX-MEMBERED NAPHTHENES AND PARAFFINS**

| | Schedule 1 | | | | | | Schedule 2 | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | Total naphthenes and paraffin hydrocarbons | | | | Naphthenes | |
| Fraction (°C.) | Hexahydro-aromatics (Dehydrog. method) (%) | Anil. pt. of dearom. product (°C.) | Coef-ficient* | Pentamethyl-enes (anil. pt. method) (%) | Paraffins (by the diff.) (%) | Anil. point of pure paraffin hydr.* (°C.) | Anil. pt. of dearom. fract. (°C.) | Coef-ficient* | Naphthenes (An. pt. method) (%) | Paraffins (by the diff.) (%) | Hexahydro-aromatics (Dehydrog. method) (%) | Pentamethyl-enes (by the diff.) (%) |
| 60-95 | 38.5(38) | 46.2 | 2.13 | 41 (39) | 20.5(23) | 71 | 38.7 | 2.13 | 96 (77) | 4 (23) | 38.5(38) | 57.5(39) |
| 95-122 | 50 (51.5) | 54.8 | 2.76 | 24.5(23) | 21.5(21.5) | 71 | 47.1 | 2.76 | 85 (74.5) | 11 (21.5) | 50 (51.5) | 35 (23) |
| 122-150 | 43 (45) | 64.6 | 3.26 | 18 (17) | 30 (29) | 73 | 55.8 | 3.26 | 68 (62) | 23 (29) | 43 (45) | 25 (17) |
| 150-200 | 33.5(36) | 60.2 | 5 | 39 (28) | 5 (13) | 78 | 59.3 | 5 | 72.5(64) | 4.5(13) | 33.5(36) | 39 (28) |

*Footnote 1, p. 95; Table 77, p. 129. Note—The figures in brackets indicate the quantity of the hydrocarbons actually taken for analysis.

**TABLE 5—CHANGES IN THE CONSTANTS OF ARTIFICIAL FRACTIONS AND ANALYSES OF THESE FRACTIONS**

| | 20 $n_d$ | | | | 20 $d_4$ | | | | Crit. temp. of solution in aniline (°C.) | | | | Hydrocarbon content in the fractions (per cent by weight) | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Prior to dehydrog. | | After dehydrog. | | Prior to dehydrog. | | After dehydrog. | | Prior to dehydrog. | | After dehydrog. | | | | Other cyclanic hydroc. (penta-methylenes) | |
| Fraction °C. | A | B | A | B | A | B | A | B | A | B | A | B | Aromatics | Hexahy-droaromat. | | Paraffins |
| 60-95 | 1.4082 | 1.4082 | 1.4284 | 1.3990 | 0.7349 | 0.7349 | 0.7641 | 0.7189 | 38.7 | 38.7 | 16.6 | 48.2 | .... | 38.5(38) | 41 (39) | 20.5(23) |
| 95-122 | 1.4187 | 1.4165 | 1.4476 | 1.4101 | 0.7521 | 0.7457 | 0.7841 | 0.7299 | 43.5 | 47.1 | 11.6 | 56.8 | 4 (4) | 50 (51.5) | 24.5(23) | 21.5(21.5) |
| 122-150 | 1.4259 | 1.4187 | 1.4442 | 1.4252 | 0.7610 | 0.7501 | 0.7839 | 0.7299 | 48.5 | 55.8 | 25.2 | 64.6 | 9 (9) | 43 (45) | 18 (17) | 30 (29) |
| 150-200 | 1.4411 | 1.4339 | 1.4580 | 1.4272 | 0.7970 | 0.7710 | 0.8027 | 0.7687 | 44 | 59.3 | 31 | 60.2 | 22.5(23) | 33.5(36) | 39 (28) | 5 (13) |

Note: The figures under "A" refer to values of constants determined prior to removal of aromatics, and those under "B" to values of constants determined after the aromatics have been removed.
The figures in brackets indicate the quality of hydrocarbon actually taken for analysis.

*(Continued from Page 67)*

changed throughout the whole series. After having determined all the constants of the dehydrogenated products, we removed from these products the aromatic content created as a result of catalysis.

After the removal (by the above described method) of the aromatics from the dehydrogenated products, the constants of the dearomatized dehydrogenation products were determined and, from the reduced aniline point and using the corresponding coefficients, a computation was made of the portion of the aromatic content in the products of dehydrogenation which was due to dehydrogenation.

By conversion to hexahydroaromatic hydrocarbons the content of the latter in the dearomatized fractions was obtained, and then the content of hexahydroaromatic hydrocarbons (six-membered naphthenes) was computed for the initial fraction.

The content of pentamethylenes (five-membered naphthenes) and of paraffin hydrocarbons in said artificial fractions was computed by the above mentioned two schedules, using for fractions boiling up to 150° C. the formula and the aniline coefficients of Tilicheev,[14] and for the fraction 150-200° C. the coefficient of Carpenter and the aniline points established for pure paraffin hydrocarbons by Sakhanov and Virabyantz.[15]

In Table 4 on the basis of the experimental data obtained we have shown the results obtained in the computation of the relative content (in per cent by weight) of five-membered naphthenes and paraffins in the artificial petroleum fractions studied. The same table shows the content of six-membered naphthenes as determined by the method of catalytic dehydrogenation.

It is apparent from Table 4 that the first schedule of analysis gives the more accurate results in determining the relative content of naphthenes of the cyclopentane series and of paraffin hydrocarbons.

The considerable discrepancy between the amount of pentamethylene and paraffin hydrocarbons obtained by computation and the amount actually taken for the analysis of fractions 150-200° C. (both according to Schedule 1 as well as to Schedule 2) is explained by the inaccuracy of Carpenter's coefficient for naphthene hydrocarbons, the coefficient being common to the fractions 150-300° C. Therefore, all the data on these two groups of hydrocarbons relating to fractions 150-300° C. should be regarded only as rough approximations.

In Table 5 are shown the changes in the constants of artificial fractions by the separate stages of the investigation, also the complete data on the analysis of said fractions (according to Schedule 1) with reference to the content of various groups of hydrocarbons.

### CONCLUSIONS

As a result of the investigation of the chemical composition of artificial petroleum fractions by the combined method of critical temperatures of solution in aniline and catalytic dehydrogenation the following points have been established:

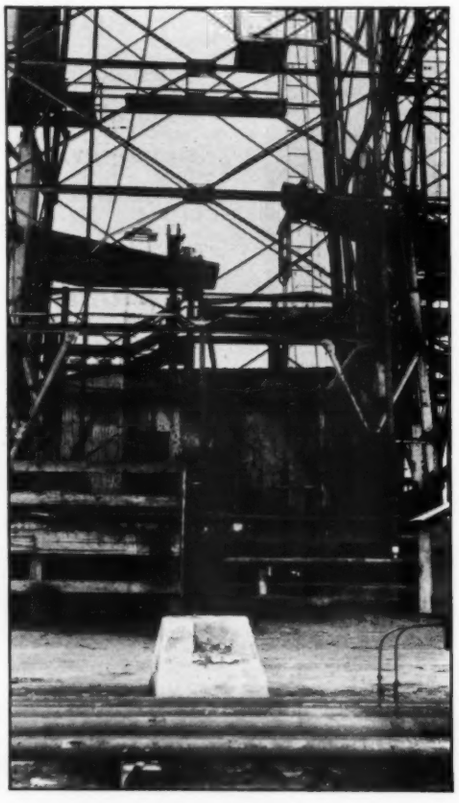
1. The computation of the content of hydrocarbons of the cyclopentane series and paraffin hydrocarbons should be carried out according to Schedule 1 because, being able to determine the amount of aromatic and hexahydroaromatic (hexamethylene series) hydrocarbons with sufficient accuracy, we would make a lesser error in computing the content of pentamethylene hydrocarbons by the aniline point of the dearomatized dehydrogenation product, than in determining them by the difference between the total naphthene content and the amount of hexahydroaromatic hydrocarbons. Thus the content of paraffin hydrocarbons also is obtained with considerably greater accuracy according to Schedule 1.

2. The method of catalytic dehydrogenation developed by N. D. Zelinskii makes it possible to determine with sufficient accuracy the content of hexahydroaromatic hydrocarbons in fractions of petroleum boiling below 300° C. The maximum error by the above mentioned method for the fraction 150-200° C. is expressed by a figure about 2.5 per cent too low for the amount of hexahydroaromatic hydrocarbons.

3. The use of the method of catalytic dehydrogenation makes it possible to determine the content of naphthene and paraffin hydrocarbons with considerable accuracy; the removal of hexahydroaromatic hydrocarbons from the hydrocarbon mixture raises the relative content of paraffin hydrocarbons therein, and this considerably improves the accuracy of determining the remaining naphthene hydrocarbons of the cyclopentane series.

4. In conditions prevailing in the catalytic dehydrogenation of petroleum fractions, the pentamethylene hydrocarbons in the presence of hexamethylenes remain unchanged or are changed to such a small extent that the change can hardly be noticed. The probable explanation is that the active centers of the catalyst become points of assembly for the hexamethylene hydrocarbons or the products of their dehydrogenation (aromatic hydrocarbons) which are present in the mixture, because the structure of both of them corresponds with the crystal pattern of the catalyst.[16] Therefore, the action of the catalyst on pentamethylene hydrocarbons in the presence of hexamethylenes or aromatic hydrocarbons should be negligible.

5. The investigation of the chemical composition of artificial petroleum fractions shows that experimental data and conclusions available in the literature on the composition of petroleum fractions and obtained by the method of catalytic dehydrogenation of N. D. Zelinskii are to be regarded as entirely reliable material; therefore the question of revising this material does not arise.



*Pumping two wells on the same derrick floor. Two crown blocks are used, one off-center for servicing the wells. A third walking beam is seen behind this derrick*

[1]"Chemical Composition of Petroleum and Petroleum Products," edited by Sakhanov, Chapters 2, 3 and 4. Moscow (1931).
[2]Zhurn. Russk. Fiz-Khim. Obschch. v. 43:1920 (1911); v. 45:52 (1913); Berichte, v. 44:3121 (1911), v. 45:3678 (1912); v. 46:737 (1913); Izv. Ross. Akad. Nauk. 183 (1923).
[3]Zelinskii and Yur'ev, Brennstoff-Chemie, v. 14:347 (1933).
[4]Zelinskii and Yur'ev, Izvestiya Akad. Nauk. S.S.S.R.: 135 (1934).
[5]Yur'ev, Uchenuie Zapiski M.G.U. v. 3:251 (1934).
[6]Yur'ev and Musaev, Uchenuie Zapiski M.G.U. (1935).
[7]Footnote 1, Chapter VI.
[8]Footnote 1, Chapter V.
[9]Uchenuie Zapiski MGU, v. 3:35 (1934); "Progress in Chemistry," v. 1:22, 23 (1934).
[10]Dokladui Akad. Nauk SSSR:170 (1934); cf. also Zelinskii, Kazanskii and Plate, Berichte, v. 66:1415 (1933).
[11]Footnote 1, p. 77, Table 61.
[12]Footnote 1, p. 125, Table 96.
[13]Berichte, v. 57:150 (1924).
[14]Footnote 1, p. 95, Table 77.
[15]Footnote 1, p. 129.
[16]Balandin (Zhur. Russk. Fiz.-Khim. Obshch, v. 61:909 (1929).

The fourteenth National Oil Burner and Air Conditioning Exposition will open March 15 for a five-day session at Convention Hall, Philadelphia. At the engineering and technical sessions, March 16, a paper on "Fuel Oil Specifications" will be read by Dr. R. T. Goodwin, manager of the fuel oil department, Shell Union Oil Co.

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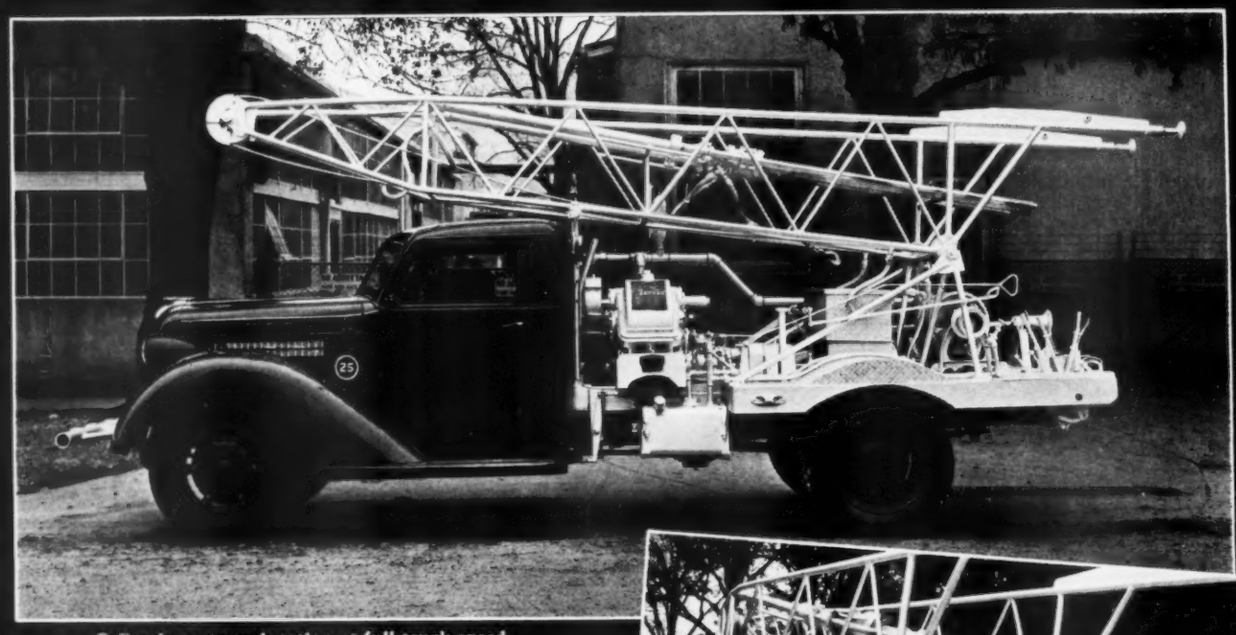

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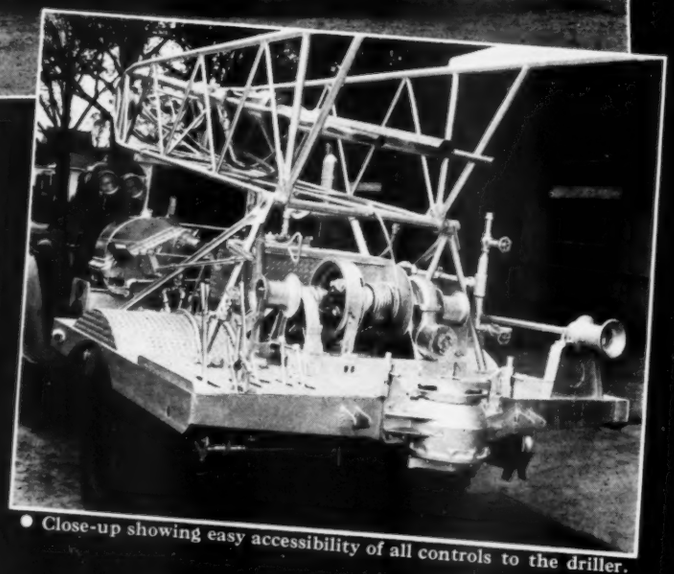

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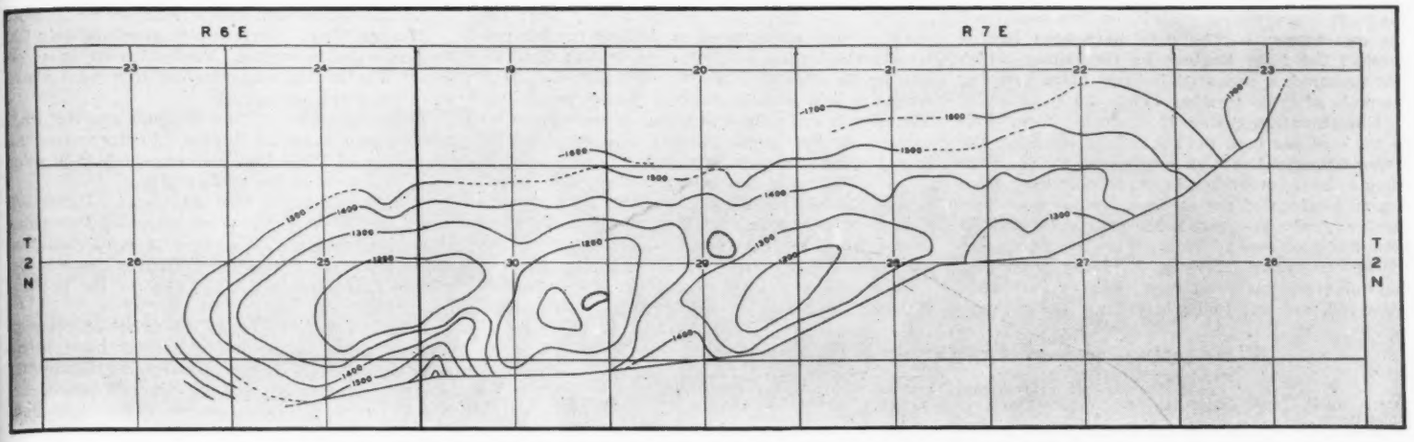


*Plate 5 — Structure map of the Wapanucka structure in the Fitts pool. Contour interval 100 feet*

# THE FITTS POOL—

# Its Geology and Development

By K. R. TEIS and MAURICE TEIS
E. H. Moore, Inc.

Principal producing formations of the Fitts pool consist of limestones, dolomites and sands. These have been divided into three separate pools or sources of supply, commonly known as the Hunton, Upper Simpson and "Wilcox." The Hunton formation is of limestone; the Upper Simpson includes limestone, dolomites and sands, while the "Wilcox" is a very porous and permeable sand. With the exception of the "Wilcox" sand all producing formations are sufficiently hard to require rock bit drilling. They stand up well in open hole.

The state corporation commission originally classified the Viola lime and the Bromide formation as a common pool or source of supply. Upon discovery of deeper production, in the McLish, that formation was included with the Viola-Bromide, the three horizons being termed the "Upper Simpson." The Upper Simpson is the most important producing section in the Fitts pool, being the most prolific and covering, as it does almost the entire productive area of the pool.

As previously stated, some 400 wells are included in the Upper Simpson pool. The higher wells, structurally, take in a section of some 750 feet, the production string of casing being set in the top of the Viola lime and the well completed with open hole to the top of the dense lime overlying the "Wilcox."

Productivity tests made on 41 wells completed by the pressure controlled method of drilling indicate the following average initial rates of production from the various horizons comprising the Upper Simpson: Viola lime 19 bbls. per hour; Bromide formation 125 bbls. per hour; and the McLish formation 181 bbls. per hour; a total initial production from the entire section of 325 bbls. per hour. These are average figures. Several wells in the pool have exceeded 800 bbls. per hour initially. Wells making 400 to 600 bbls. per hour were common during the earlier development period.

Initial production of Hunton lime wells has varied widely over the pool. The producing ability of wells in the Hunton is indicated by recent potential tests. The average 24-hour potential of 150 wells was 2,940 bbls. Tests were then taken through 2½-inch tubing, the wells being flowed for a period of four hours, the last three hours production being multiplied by eight to determine the 24-hour potential.

Initial production of 18 Wilcox wells averaged 735 bbls. per hour. The largest Wilcox well had an initial flow of 1,640 bbls. per hour.

***A.P.I.*** **— Conclusion of paper delivered before production division of the Mid-Continent district, Tulsa, February 25-26. In the first part of their article, which appeared in the March 4 issue of The Oil and Gas Journal, the authors dealt with the history, stratigraphy and structure of the Fitts pool.**

Original formation pressures in the Upper Simpson horizon approximated 1,980 pounds per square inch at elevation 3,300 feet below sea level. The average pressure at present is near 1,100 pounds, a decline of some 900 pounds. This decline has resulted from the withdrawal of approximately 25,000,000 bbls. of oil from the Upper Simpson reservoir. At the present rate of withdrawal, approximately 1,500,000 bbls. per month; the decline in pressure is near 30 pounds per 1,000,000 bbls. withdrawn. (Plate 4.)

Early gas-oil ratios in the Upper Simpson zone approximated 400 feet per barrel; indicating little or no free gas in the reservoir. With decline in pressures below 1,100 pounds gas-oil ratios have increased in certain portions of the pool. Solution pressure of gas has been determined by several operators and by the Bureau of Mines. These tests indicate that liberation of dissolved gas becomes material as average reservoir pressures fall below 1,150 pounds.

Gas-oil ratios taken on wells completed between January, 1935, and July, 1935, averaged slightly above 700 feet per barrel. Initial ratios obtained on wells completed between that date and the present time have averaged about the same. The deepening of many Viola-Bromide wells into the McLish formation between July, 1935, and January, 1936, reduced the average of some 1,500 feet per barrel as indicated by the July potential to about 1,200 feet per barrel at the time of the January, 1936, potential. The daily volume of gas processed by the gasoline plants in the pool totaled approximately 78,000,000 feet per day during the month of December, 1936. The allowed daily production for the pool during the month was approximately 68,000 bbls., indicating an average operating overall ratio of near 1,150 feet. A portion of the gas, no doubt, failed to reach the plants. However, the figures would lead to the supposition that average producing gas-oil ratios have not increased materially during the past 18 months.

Original gas-oil ratios in the "Wilcox" were below 400 feet per barrel, several wells showing as low as 360 feet per barrel. Original pressures approximated 1,850 pounds. Pressures now average near 1,500 pounds, a decline of 350 pounds with a withdrawal of some 800,000 bbls. The reservoir rock of the "Wilcox" formation is a highly permeable loosely cemented sandstone. As a result of the permeability pressures are fairly uniform as between wells in the pool.

Pressures in the Hunton limestone vary widely over the pool, ranging from 500 pounds in certain wells in the north-central portion of the pool to approximately 1,650 pounds per square inch in recent completions on the east side. Producing gas-oil ratios have, also, varied widely, there being evidence of an original gas cap. Accumulated production from the Hunton lime totals near 1,500,000 bbls.

Pressure measurements have been made more extensively and with greater frequency in the Fitts pool than in any other major pool of the state:

the state conservation commission has supervised the measurements. The data have been cleared through the Fitts Engineering Committee, which has prepared a series of isobaric maps covering intervals of three months. (Plate 7.)

Unfortunately, coring of producing formations in the pool has been limited. No well having the Upper Simpson has been completely cored. Such cores as have been taken have probably come from denser portions of the sections, as the more productive sands are not sufficiently cemented to permit of good core recovery. This being true, any conclusions drawn from porosity and permeability determinations made on such cores as have been recovered, are apt to be in error. The average porosity of some 20 Bromide sand cores taken from 11 wells on the west side of the pool was 15.2 per cent and the average permeability 425 millidarcys. Porosity ranged between 10 and 24 per cent, permeability from 13 to 4,400 millidarcys.

**TABLE 1—PUMPING INSTALLATIONS IN THE FITTS POOL**

| Company— | Standard steel rig front | Chain driven rig front | Self-contained unit | Type of power: Vertical Gas engine | Type of power: Horozontal gas engine | Type of power: Electric motor | Jack wells | Number of installations |
|---|---|---|---|---|---|---|---|---|
| Burke-Greis | .. | 5 | .. | .. | 5 | .. | .. | 5 |
| Stanolind | 6 | .. | .. | .. | 6 | .. | .. | 6 |
| Crosbie | .. | .. | 3 | .. | 3 | .. | 2 | 5 |
| Loual | 3 | .. | .. | .. | 3 | .. | 1 | 4 |
| Bishop | 1 | .. | .. | .. | 1 | .. | .. | 1 |
| Fleetborn | 2 | .. | .. | .. | 2 | .. | .. | 2 |
| Delaney-King | 1 | .. | .. | .. | 1 | .. | .. | 1 |
| Skelly | .. | 3 | .. | .. | 3 | .. | .. | 3 |
| Magnolia | 20 | .. | .. | .. | 20 | .. | .. | 20 |
| Mid-Continent | 3 | .. | .. | .. | 3 | .. | .. | 3 |
| Blackstock | .. | .. | 4 | 4 | .. | .. | .. | 4 |
| Carter | 1 | .. | 1 | 1 | 1 | .. | .. | 2 |
| E. H. Moore | .. | .. | 19 | 2 | .. | 17 | | 19 |
| Totals | 37 | 8 | 27 | 7 | 48 | 17 | 3 | 75 |

### *DRILLING OPERATIONS*

All drilling has been carried out with heavy rotary equipment. Steam power has been most prevalent; however, a number of wells have been drilled with gas-engine powered rigs. Several operators have done all or a portion of their drilling with company tools, but by far the greater portion of the wells has been drilled by contract. Prices have ranged from $5 to $7 per foot of hole, the average being near $6. Cost of completed wells, including well head equipment, tubing, separator, flow lines and tankage, ranges between $50,000 and $60,000.

The entire hole is made with rock bits, the conventional tri-cone bit being most generally used. Footage per bit averaged about 85 feet. Total drilling time is about 60 days, divided as follows: Rigging up 3½ days, drilling surface hole 2 days, drilling below surface pipe 52 days, waiting on cement 5 days. Surface hole is reamed to 17¼ inches. An 11-inch hole is drilled for 8⅝-inch casing, and a 9-inch hole for 7-inch casing. Contractors report an average of 7½ wells as the life of a string of 6-inch drill-pipe.

The usual boiler plant consists of three 125 H.P. 300-pound working pressure boilers. The most common size of slush pump is the 14½ by 7½ by 18 inches.

Mud costs have been comparatively low; the natural clays encountered in drilling furnish materials which form a satisfactory drilling fluid requiring the addition of little weight material. Mud weight is held slightly above 10 pounds per gallon. Viscosity is maintained at about 40 seconds as indicated by the Marsh funnel. Use of vibrating mud screens is almost universal.

Some difficulty has been experienced in maintaining straight holes while drilling. Bit pressures approximate 3 points of weight (Martin-Decker gauge, 6 lines). One 30-foot drill-collar above the bit and a 3-point reamer is common practice.

The principal cause of fishing jobs is failure of joints on reamer and drill-collars. Serious fishing jobs have not been frequent. Several holes, however, have been lost as a result of gas blowouts.

Drilling derricks are 122-foot, 333,000-pound capacity. Steel substructures set on combination concrete corners are used on most of the wells. The drilling derricks are moved ahead upon completion of drilling. Cellars are usually 10 feet by 10 feet by 8 feet deep, constructed of concrete.

Cellar connections while drilling consist of a master gate and a blowout preventer of either the ram type or power operated wrap-around type.

Slush pits generally consist of a working pit 20 feet by 80 feet by 6 feet deep, and a reserve pit of about 200,000-foot capacity.

Fuel consumption of drilling wells has averaged about 700,000 feet per day. Water requirements have been close to 1,600 bbls. per day. The pool has had an adequate supply of drilling gas which is produced from comparatively shallow wells in the McAlester, Atoka, and Cromwell formations. Spring-fed streams have furnished adequate drilling water, with the exception of a few weeks of severe drought last summer.

### *CASING AND CEMENTING PROCEDURE*

The five producing sections in the pool, which include the Hunton, Viola, Bromide, McLish and "Wilcox" formations have, as previously stated, been classified as three separate sources of supply. The Hunton lime being one; the Viola, Bromide and McLish formations constituting the second; and the "Wilcox" the third. Casing requirements for the various sources of supply, as fixed by the Oklahoma Corporation Commission, are as follows:

Hunton Lime: Surface pipe approximately 500 feet cemented to surface. Production string set on top of Hunton lime and cemented to a point above the shoe of the surface pipe.

Upper Simpson: (Viola, Bromide and McLish). Surface pipe same as Hunton. Production string set in top of Viola lime and cemented to a point above the shoe of the surface pipe.

Wilcox: Surface pipe as above. Protection string set in top of Viola and cemented to a point above the shoe of the surface pipe. Production string set in lime above the "Wilcox" sand. Cemented to a point above the shoe of the protecting string.

Casing sizes have varied somewhat as between operators, but the usual pipe sizes have been:

Surface pipe, 13⅜-inch, 54.50-pound Grade "C" seamless; production string, either 8⅝-inch, 32-pound, Grade "C" seamless or 7-inch, 24-pound, Grade "C" seamless; protecting string, (Wilcox), 9⅝-inch, 40-pound, Grade "C" seamless.

Little difficulty has been experienced in the running of casing strings and no cases of collapsed pipe have come to the attention of the writer. Surface strings are usually cemented with 400 sacks, production strings and the Wilcox protection string with from 1,000 to 2,500 sacks, the quantity of cement used having been reduced during the latter part of the development period. The Wilcox production string is usually cemented with 100 sacks.

Failures to get return of cement on the long strings have been prevalent due to loss of cement to porous low-pressure sands in the McAlester and Atoka formations. Placing cement by the two-truck method is common. The use of high early strength cements has predominated, and the use of admixtures of collodial material has been general.

### *WELL COMPLETIONS*

The prevailing manner of well completion in the pool has been the drilling of the producing section by the conventional rotary method. One of the principal operators, however, has completed the majority of his wells by use of the pressure-control method of rotary drilling. It is the writers' belief, based on close contact with this work, that use of the pressure-control method of drilling has resulted in material benefits, which may be summarized as follows:

1. More accurate logging of pay zones as to position in the producing section, and as to productivity.
2. Elimination of the hazard of mud intrusion.
3. Less contamination of samples of drill cuttings.
4. More accurate identification of water bearing strata.
5. Knowledge of the commercial status of the well at progressive depths, while drilling in.
6. Evaluation of deeper pay zones at time of discovery.

The use of this method of drilling has been

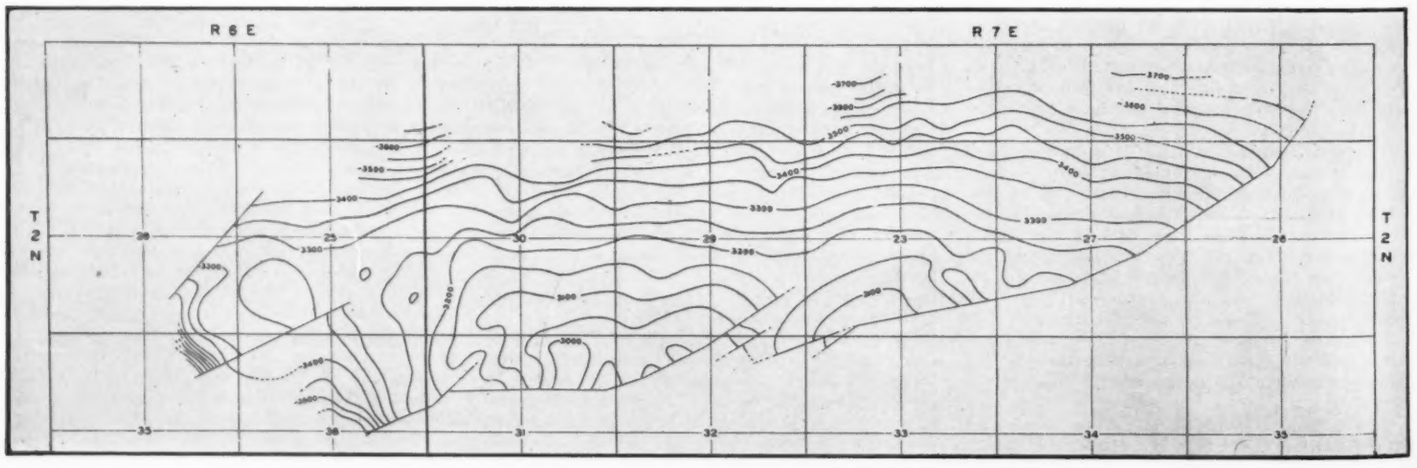


*Plate 6 — Structure map of the Bromide structure in the Fitts pool. Contour interval 50 feet*

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**Note to Reader:** This is the first in a series of advertisements based on one engineer's experience with his first Dresser-coupled line. For the complete story, write for Bulletin 351.

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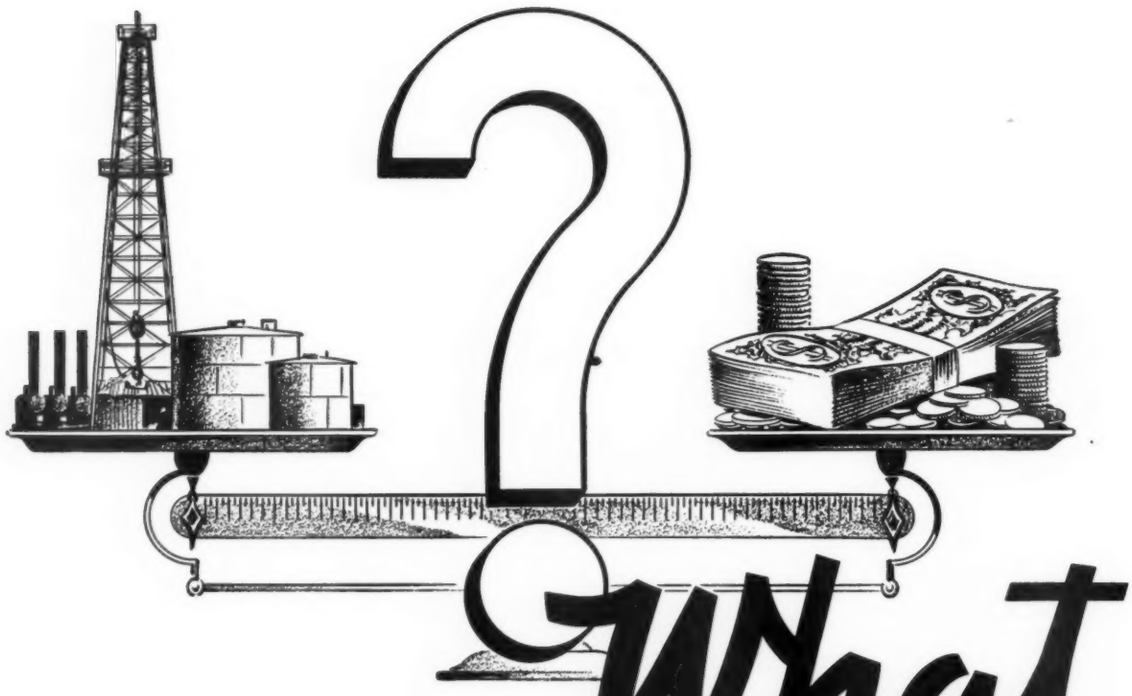

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treated in detail in previous papers and will not be dwelt on further.*

The producing sections in the Fitts pool are of considerable thickness, the Hunton lime approximating 300 feet, the Upper Simpson ranging from 300 on the lower portions of the structure to as much as 750 in the wells structurally high. This results in considerable open hole in the Hunton and Upper Simpson wells. To date no great amount of trouble has been experienced from sloughing of the interbedded shales, however, it is possible that later on in the life of certain wells it will be necessary to protect the producing sections with screens. To date, however, few installations of screens or perforated liners have been made.

### *PRODUCTING PRACTICES*

Approximately 95 per cent of the wells in the pool are being produced by natural flow. Those subjected to artificial lift are being pumped on the beam. Cessation of natural flow has followed, in most cases, the intrusion of water. Some 69 wells have produced water during some period of their life. Perhaps half this number are now making water. Some 38 wells are being pumped at the present time.

Referring to Plate 4, it is noted that the weighted average decline of formation pressures has maintained a rather uniform rate, in spite of considerable variation in the rates of withdrawal from the pool. Predictions as to length of flowing life of the average well in the pool are dangerous, as it is impossible to forecast the future rates of production.

Formation pressure has now reached a point where release of dissolved gas is evident in certain portions of the field. This will have a sustaining effect on pressures. The effect of water encroachment on formation pressure is difficult of evaluation at this time. Assuming a minimum flowing pressure of 800 pounds, we may anticipate early pumping of many wells in the area west of the east line of section 29-2n-7e. East of this line the average well, if unaffected by water, may be expected to maintain natural flow for an additional 12 or 15 months.

No wells in the pool are being gas-lifted at the present time. The majority of operators feel that under the strict proration effective in the pool gas-lift will not prove economical as a producing medium. The flowing life of several wells has been increased by the use of flow collars.

Pumping installations to date have been fairly well divided between the conventional steel ring front and heavy self-contained geared or chain driven units. Table 1 summarizes a recent survey of the field.

E. H. Moore, who operates approximately 150 wells in the pool, has recently constructed a 750 K.W. generating plant with a view to applying electric drive to self-contained pumping units. The installation just completed composes about one-third of the ultimate plant requirements. It consists of three gas engine-driven generating units. The prime movers are 11½-inch by 13½-inch, eight-cylinder diesel engines converted to gas operation, rated at 400 H.P. at 400 R.P.M. Generation is at 4,160 volts, transformed to 440 volts at substations, usually serving six wells. The generating units represent a compromise between the low speed heavy equipment of a few years ago and the present trend towards lighter-weight high-speed generating equipment.

The Viola and Hunton limes react favorably to acid treatment. Due to the great thickness of these formations large doses have been most effective. Viola lime treatments range between 2,000 and 6,000 gallons, often administered in two separate doses. Much larger treatments have been the rule in the Hunton wells, particularly in the east and north sections of the pool. Here, two doses, the first of 4,000 or 5,000 gallons, the second of 8,000 or 10,000, have been common. One well, completed recently, was acidized with a total of 25,000 gallons of acid, administered in four doses.

A summary of 73 acid treatments administered to 48 Upper Simpson and Hunton wells is shown in Table 2.

The tabulation shown definitely indicates a loss in effectiveness of acid treatments applied to wells in which sand sections are exposed. Little can be concluded as to the effectiveness of various sized doses of acid unless it be that the larger doses are more certain of success, particularly where administered to a thick section of formation with exposed sands.

The pool is served at present by two gasoline plants, a third being in the process of construction. The two plants process some 75,000,000 feet of gas per day. Recoveries range from 0.6 to 0.7 gallon per 1,000 feet. A portion of the residue gas is utilized for drilling fuel.

The Fitts pool has been rigidly prorated through its productive life. Well allowables are based on percentage of potentials taken through 2½-inch tubing. Three field potentials have been taken on Upper Simpson wells, the first in January, 1935, the others following at six-months intervals. These tests have been accompanied by bottom-hole pressure measurement and by determination of gas production. New wells are required to take potentials immediately following completion. Potential tests consist of flowing the well at maximum rate through 2½-inch tubing for a period of six hours, the last four hours total being multiplied by six to give the 24-hour potential. The Upper Simpson zone has approximately 400 wells with a total potential of some 930,000 bbls. per day.

As noted above, no general field potential has been taken on Upper Simpson wells since January, 1936, the operators preferring to take a 3 per cent

*Pressure Completion of Wells in the Fitts Pool by K. R. Teis, Drilling and Production Practices, 1936.


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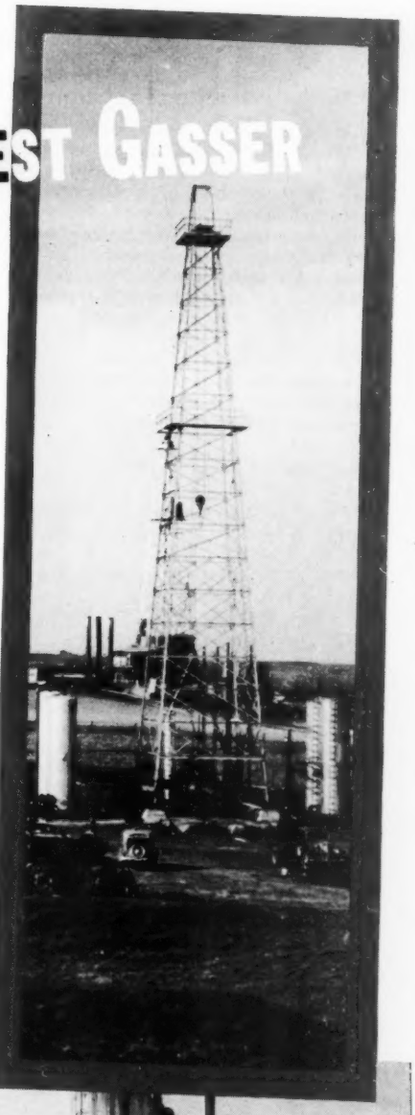

**OTIS crew snubs 7206′ of 2½″ tubing against 1900 pounds shut-in pressure in this 350,000,000 cubic foot, 600-barrel well.**

Pictured is the biggest gas well ever completed in Oklahoma, located in the Moore Field. Initial production was 350,000,000 feet of gas and 600 barrels of 60 gravity oil with a back pressure of 500 pounds on the surface connections. Five separators (including one 30″ x 18′ high pressure type and four 7′ x 22½′ low pressure types) were required to handle the volume. It took twelve 8⅝″ lines to vent the gas from these separators. Yessir! that's real volume—and pressure! You probably wonder how they ran tubing. They didn't. They weren't supposed to. They called OTIS PRESSURE CONTROL. An OTIS crew ran 240 joints (totaling 7206′ 8″) of 2½″ external upset tubing against a shut-in pressure of 1900 pounds per square inch.

The above tubing job is one that called for specially trained men and OTIS snubbing equipment, but for an OTIS crew it was just another job—all in a day's work. Similar jobs have been handled by OTIS crews in numerous other high pressure fields with complete success.

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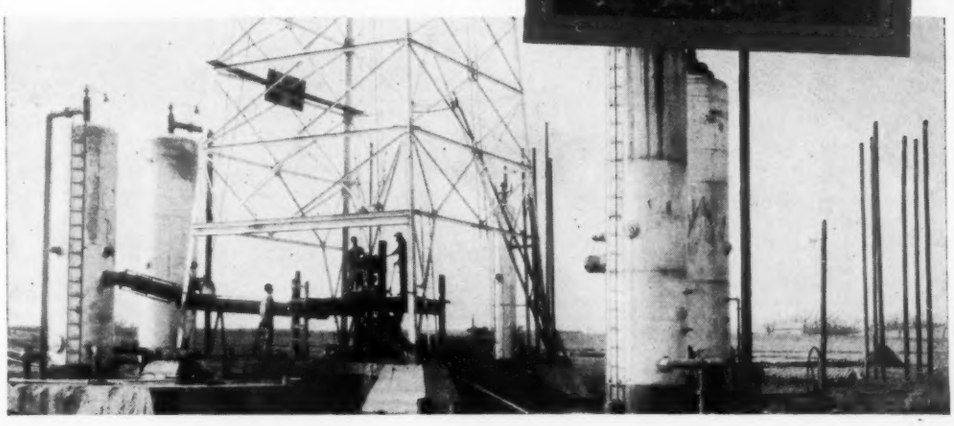

per month decline in lieu of the actual test. Considerable work has been done by both the United States Bureau of Mines and the Fitts Pool Engineering Committee towards development of a satisfactory substitute for the 3 per cent decline now in effect. Three alternate methods have been proposed:

1. Application of an average decline curve.
2. Decline of existing potentials based on the individual well's bottom-hole pressure decline.
3. Application of the productivity index.

Of the three methods, one of the first two is probably the most suitable. The work carried on by the Bureau of Mines indicates that the relationship between rates of flow and drop in bottom-hole pressure, while possible of determination, involves field testing of such magnitude and complexity as to make the method impractical for proration purposes. It is quite probable that the operators will be able to agree on continuation of the decline or the substitution of one of the other two methods, in which case no additional field potentials will be taken.

### WATER ENCROACHMENT

Water appeared in the second Bromide sand in the SE quarter of section 25-2-6 in the early part of 1935. Since that time the majority of wells in the N half of section 36 and the SE quarter of section 25 are producing water or have made water, and have been plugged back. In this area the water level has reached an elevation of about 3,400 feet sub-sea. Pressure contours indicate that the encroachment of this water is from the southwest. It, also, appears that its northward movement is retarded by the fault cutting across the south side of section 25. Certain edge wells along the west and north side of the pool have also produced water in the Upper Simpson formations, usually below 3,600 feet sub-sea, however.

In the central portion of the field (NE quarter section 30, N half section 29, and NW quarter section 28) certain wells have shown water in the second McLish sand where penetrated to a greater depth than approximately 3,575 feet sub-sea. Approximately 14 wells fall into this class.

### WATER LEVEL UNCERTAIN

The water level in the Hunton lime is still uncertain. The Patsy Oil Co. Magnuson No. 1 in SW SE SE section 23-2-7, drilled to a total depth of 4,785 feet found water in the Hunton lime at 3,653 feet sub-sea. The Shell Petroleum Co. No. 1 Bates in SE NE NW section 26-2-7, found water in the Hunton at 3,413 feet sub-sea. Both of these wells are south of the fault which defines the pool to the south and east. Water recently appeared in the Paul Getty No. 2 Master which was bottomed at 3,129 feet sub-sea. The source of this water has not yet been determined.

**TABLE 2—SUMMARY OF ACID TREATMENTS**

| | Total number | Before bbls./hr. | After bbls./hr. | Increase bbls. | Increase percent | Results: Successful | Doubtful | Failure | Per cent successful |
|---|---|---|---|---|---|---|---|---|---|
| All wells | 106 | .... | ..... | .... | .. | 79 | 14 | 13 | 74.5 |
| All treatments | 146 | 6,367 | 11,494 | 5,127 | 81 | 107 | 24 | 15 | 73.2 |
| Hunton lime treatments | 44 | 1,492 | 3,198 | 1,706 | 114 | 40 | 2 | 2 | 91 |
| Viola lime treatments | 33 | 840 | 2,553 | 1,713 | 204 | 28 | 4 | 1 | 85 |
| Viola-Bromide treatments | 34 | 1,590 | 2,666 | 1,076 | 68 | 19 | 10 | 5 | 56 |
| Viola-Bromide-McLish treatments | 27 | 1,909 | 2,410 | 510 | 26 | 15 | 6 | 6 | 56 |
| Bromide-McLish treatments | 4 | 276 | 213 | 36 | 13 | 2 | 2 | .. | 50 |
| Bromide treatments | 1 | 2.82 | 1.67 | —1.15 | —41 | .. | .. | 1 | 0 |
| McLish treatments | 3 | 258 | 354 | 96 | 37 | 3 | .. | .. | 100 |

**106 WELLS**

| Size of treatment— | Number of treatments | Number of failures | Number doubtful | Number successful | Per cent successful |
|---|---|---|---|---|---|
| **Hunton** | | | | | |
| 1,000 gallons | 3 | .. | .. | 3 | 100 |
| 2,000 gallons | 11 | 1 | .. | 10 | 91 |
| 4,000 gallons | 8 | .. | 1 | 7 | 87 |
| 5,000 gallons | 7 | 1 | .. | 6 | 86 |
| 6,000 gallons | 5 | .. | 1 | 4 | 80 |
| 8,000 gallons | 6 | .. | .. | 6 | 100 |
| 10,000 gallons | 4 | .. | .. | 4 | 100 |
| **Viola** | | | | | |
| 2,000 gallons | 1 | .. | .. | 1 | 100 |
| 4,000 gallons | 19 | 1 | 4 | 14 | 74 |
| 5,000 gallons | 1 | .. | .. | 1 | 100 |
| 6,000 gallons | 7 | .. | .. | 7 | 100 |
| 8,000 gallons | 4 | .. | .. | 4 | 100 |
| 10,000 gallons | 1 | .. | .. | 1 | 100 |
| **Viola—Bromide** | | | | | |
| 2,000 gallons | 4 | 1 | 2 | 1 | 25 |
| 4,000 gallons | 15 | 3 | 5 | 7 | 47 |
| 5,000 gallons | 1 | .. | .. | 1 | 100 |
| 6,000 gallons | 5 | 1 | 2 | 2 | 40 |
| 8,000 gallons | 8 | .. | 1 | 7 | 87 |
| 10,000 gallons | 1 | .. | .. | 1 | 100 |
| **Viola—Bromide—McLish** | | | | | |
| 2,000 gallons | 1 | .. | .. | 1 | 100 |
| 4,000 gallons | 21 | 5 | 5 | 11 | 52 |
| 6,000 gallons | 2 | .. | 1 | 1 | 50 |
| 8,000 gallons | 3 | 1 | .. | 2 | 67 |
| **Bromide—McLish** | | | | | |
| 4,000 gallons | 3 | .. | 2 | 1 | 33 |
| 6,000 gallons | 1 | .. | .. | 1 | 100 |
| **Bromide** | | | | | |
| 8,000 gallons | 1 | 1 | .. | .. | ... |
| **McLish** | | | | | |
| 4,000 gallons | 1 | .. | .. | 1 | 100 |
| 6,000 gallons | 1 | .. | .. | 1 | 100 |
| 8,000 gallons | 1 | .. | .. | 1 | 100 |

Some uncertainty exists as to the effectiveness of the water drive in the various producing zones: it would appear, however, that with the possible exception of the encroachment in the lower Bromide in the western part of the field the Upper Simpson formation does not have an active water drive. In the Wilcox formation active pressure maintenance by water is more probably due to the extent of the highly permeable sands.

The troublesome problem of salt water disposal was met with early attention on the part of the operators with the organization of a unit plan disposal well under way. Two test wells have been drilled north of the field for the purpose of determining the practicability of returning brine to the highly permeable sands of the Bromide and McLish. The wells are drilled north of the Stonewall fault of the Lawrence uplift in which area the sand occur at a relatively shallow depth. The result of the tests indicates that it will be feasible to dispose of the entire production of brine by pumping into these beds. A majority of operators in the pool have already signified their willingness to join in a unitized plan of disposal involving a system of gravity gathering lines, pumping plant, and discharge lines to one of the wells. Work on this project is expected to be under way at an early date.

### ESTIMATING RECOVERABLE RESERVES

Estimate of recoverable oil from the various productive zones in the Fitts pool presents a problem difficult of solution. The field has several productive sections which vary widely in character, even between offset wells. Core data is meager and extremely inconsistent. Well production has been restricted throughout the life of the pool. These factors discourage the use of conventional methods of estimating oil reserves. We close with the observation that this matter might well be made the subject of more intensive study on the part of the industry.

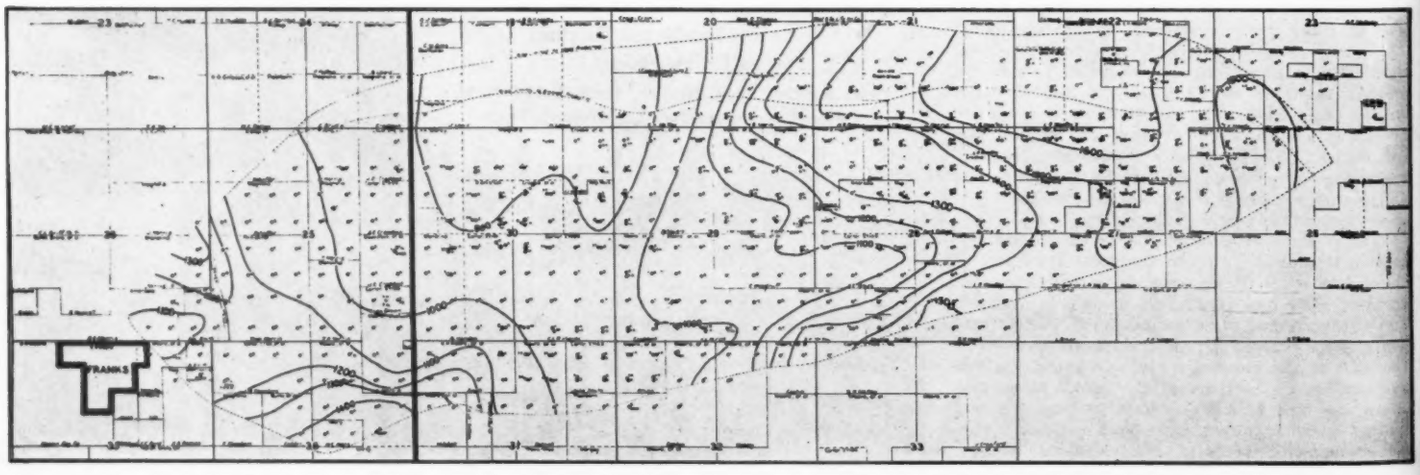


*Plate 7—Isobaric map of the Upper Simpson in the Fitts pool; prepared by the Fitts pool engineering committee, October, 1936*

| | | | |
|---|---|---|---|
| Weighted average pressure, lbs. per square inch | 1,188 | Pressure decline per 1,000,000 bbls., July to October, 1936, lbs. per sq. in. | 39.9 |
| Pressure decline, July to October, 1936, lbs. per square inch | 179 | Pressure decline, January, 1935, to October, 1936, lbs. per square inch | 695 |
| Production, July to October, 1936, bbls. | 4,501,783 | Production, January, 1935, to October, 1936, bbls. | 19,513,311 |
| Pressure decline per 1,000,000 bbls., January, 1935, to October, 1936, lbs. per sq. in. | 35.6 | | |

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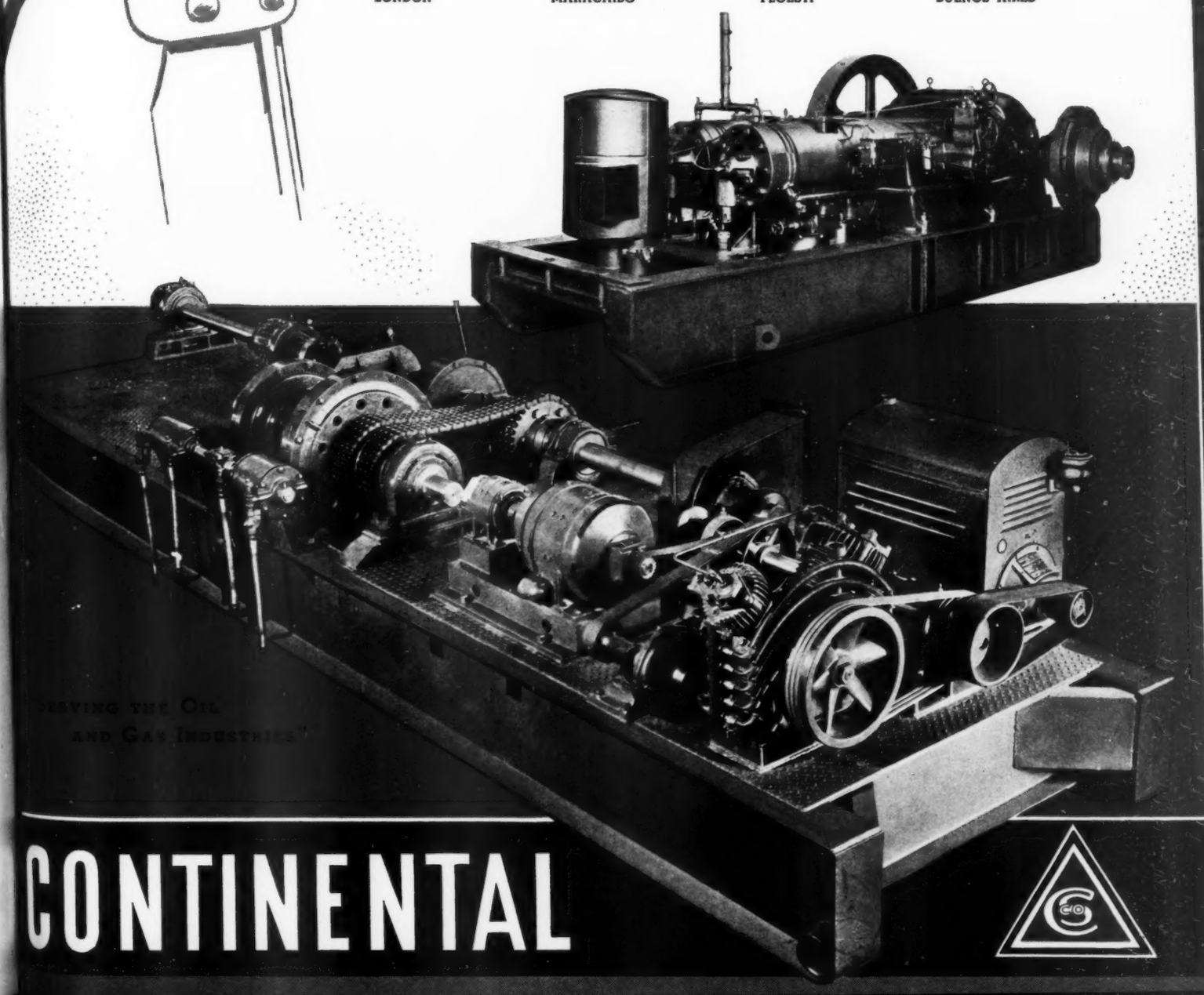

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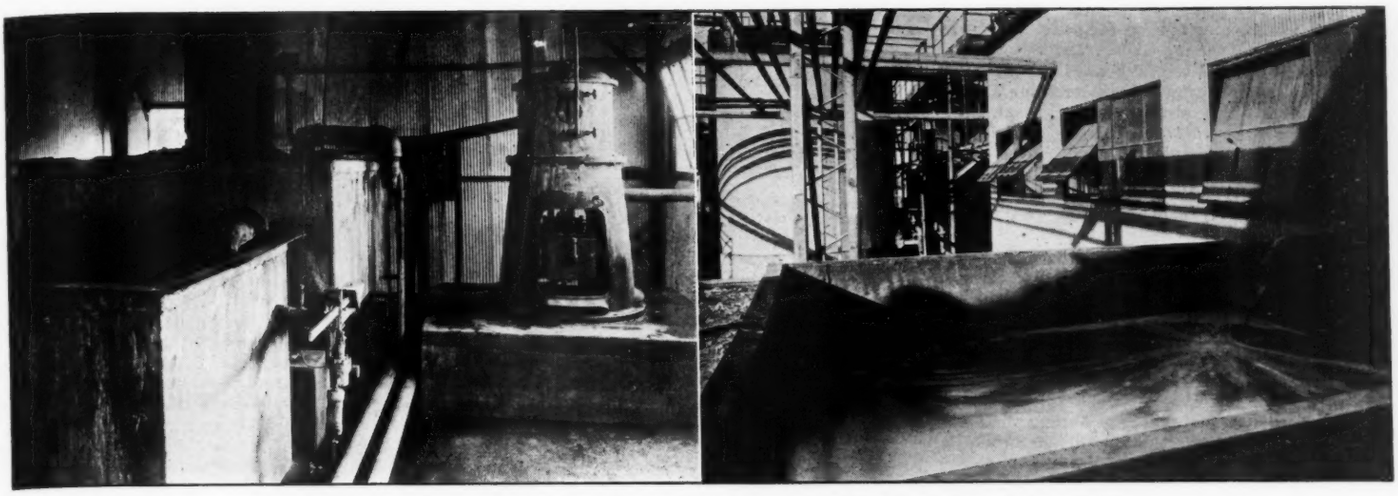

*The demulsifier and regenerator in operation and right, recovery gasoline discharging from the centrifuge*

# Naphtha and Lead Recovery System Proves Economical

By C. W. BERGER
Chief Chemist, Globe Oil & Refining Co.

Recognizing the opportunities for savings, and for improvements in the conventional plumbite recovery operations, the Globe Oil & Refining Co. (Kansas), of McPherson, Kans., has recently installed, and has now operated successfully for four months, a Bayway combination centrifuging and regenerating unit.

The unit consists of one special demulsifier model "15A," and one No. "66" mechanical spent doctor regenerator. The demulsifier has an individual built-in, explosion-proof motor (2 h.p.) and is designed for an effective feed rate of 5 to 7 bbls. per hour. The regenerator has an individual, built-in, explosion-proof motor (15 h.p.) and is designed for an effective regenerating rate of 12 bbls. of solution per hour to contain 8 to 10 pounds of soluble lead per barrel of solution.

The demulsifier is a modified Laughlin continuous solid-bowl centrifuge operating at a basket speed of 1,250 r.p.m.

In operation, the emulsion is forced into the bottom of the bowl and gradually flows upward. The lead sulfide which settles in the bowl is caught up by the blades of a screw operating at slightly different speed from that of the bowl and moved slowly upward, being freed of naphtha in the process by the centrifugal action. The naphtha, being lighter than the caustic and lead sulfide, flows toward the center of the bowl where it forms a vertical layer and is trapped off to the gasoline discharge through four equally spaced nozzles. The caustic and lead are thrown toward the outside of the bowl by centrifugal action, and upwards by the screw blades and find egress through a baffle and slot near the top of the centrifuge. The baffle is so constructed that only caustic and clean sulfide is discharged, holding any emulsified material in the bowl until broken.

The regenerator consists of a shallow, flat bottom tank in the center of which sets the special mechanisms of the unit. Essentially, the latter is a suspended, motor-driven rotor surrounded by a cylindrical stator secured to the bottom of the tank and surmounted by a sleeve. The speed of the motor is 490 r.p.m. The perforated false bottom of the tank is equipped near the center with radiating ducts in the form of a clover leaf while at the center of the clover leaf is a larger hole directly over which the rotor whirls. The rotor and stator each consist of two cast-iron annular rings with pipe spacers to separate the rings. Pipes are placed in such position that the openings between them form long, narrow vertical slots.

In operation, the spent doctor, or centrifuge discharge of lead sulfide and caustic, is introduced into a narrow, vertical channel on one end of the tank from which it is partly drawn and partly gravitates, to the bottom of the tank proper, beneath the false bottom. When enough feed has been introduced to cover the top of the stator slots, the whirling rotor acts as a pump impeller and draws liquid up from the bottom of the tank through the center opening, forcing it out between the pipe spaces on the rotor and into the space between the rotor and the stator. Then, by means of its own velocity it is thrown out through the stator slots, being whipped into a fine spray in the action. The action likewise creates a vacuum, pulling air from the atmosphere through a pipe rising above the level of liquid in the regenerator. The design is such that this air is mixed intimately with the doctor solution discharging from the stator, the whole assuming the form of a mist. When the mixture strikes the liquid in the tank, larger air bubbles are formed and pass off. The entire regenerating system is made continuous by first: Circulation of liquid back to the clover leaf ducts through the feed compartment and through the perforated false bottom, and second, overflow of regenerated solution to a sump. A cut of the regenerator is shown in Figure 1.

The complete installation consists of the two units described above together with adequate doc-

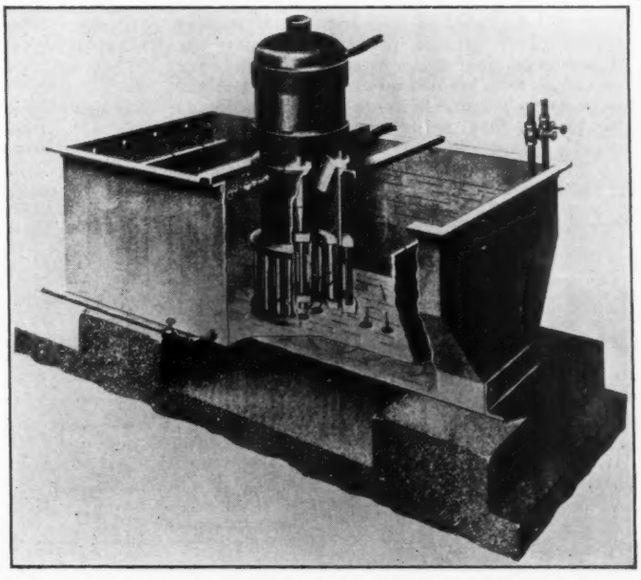

*Fig. 1—Regenerator used in the recovery unit*

tor-settling, circulating and storage tanks, doctor-transfer pumps, and storage facilities for the recovered gasoline. At the Globe plant very little in extra equipment was needed besides the centrifuge and the regenerator, the remainder being already present as conventional recovery equipment.

One 200-bbl. cone-bottomed tank (No. 5 in Figure 2) is used for circulating naphtha-free doctor through the regenerator. Consequently, the sodium plumbite strength in No. 5 tank would continue to build up indefinitely were it not for two further operations.

The first is that spent doctor emulsion from the treating plant is continually passing through the centrifuge, losing its percentage of naphtha and discharging also into the regenerator along with material circulating from No. 5 tank. In practice, spent doctor emulsion is collected in tanks No. 1 and No. 2 and pumped slowly through the centrifuge.

The second reason that No. 5 tank does not build up sodium plumbite strength indefinitely is that it is constantly overflowing finished doctor solution from near the top into tanks No. 3 and No. 4 for storage.

The entire system is controlled by intermittently checking litharge and caustic strength on No. 5 tank. Thus if the litharge strength becomes weak, more lead sulfide in the form of centrifuged spent doctor is pumped from Nos. 1 and 2 tanks. If the litharge strength becomes too high or the presence of excess unoxidized lead sulfide is noted, the centrifuging operations are slowed down. Caustic strength in the doctor can be increased when desirable by adding caustic at any one of several points, No. 5 tank usually being the recipient. In the manner described, uniform doctor solution can be maintained at all times or the strength varied at will for special purposes.

At no point in the cycle are temperatures of over 120° F. carried on the doctor solution. During the summer months, no steam at all is used, while in the winter, only a little is necessary. It has been demonstrated effectively that heat is unnecessary for doctor regeneration after the emulsifying naphtha has been centrifuged out, and although the unit will operate at any temperature, trial runs at high temperatures have not increased the efficiency by any measurable degree. Doctor solution emerging from the end of the system is cool and ready for immediate use.

Most of the outstanding advantages of such a system for doctor recovery are obvious and need not be discussed at length.

The doctor reclaimed is superior to that furnished by the conventional steaming and blowing system. The strength is uniform, the gravity or weight uniform, and it is free of emulsion or entrained, off-color naphtha. Troubles encountered previously at the Globe plant such as fresh gasoline being thrown off color by regenerated doctor entirely disappeared on the advent of the Bayway system. Less emulsion trouble and gasoline entrainment in spent doctor were enjoyed. Recovery operations were speeded up to the extent that finished doctor solution is now always available and the treating plant needs no longer to wait occasionally for chemicals.

The mechanical nature of the operation removes a good deal of the personal element from making doctor solution and consequently eliminates errors arising from manual control. It is beneficial from a safety standpoint, the hazards from boiling over chemical tanks being removed, and the danger of fire resulting from gasoline evaporated from steaming doctor solution avoided.

**TABLE 1—COMPARISON OF SWEETENING COSTS**

| | Costs | |
|---|---|---|
| Chemical consumption, lbs. per bbl. treated: | Conventional | Bayway |
| Litharge | 0.0610 | 0.0118 |
| Caustic soda | 0.1060 | 0.1191 |
| Sulfur | 0.0415 | 0.0421 |
| Cost of chemicals per bbl. oil treated: | | |
| Litharge | $0.003721 | $0.0007198 |
| Caustic soda | 0.002915 | 0.0032753 |
| Sulfur | 0.000863 | 0.0008752 |
| | $0.007499 | $0.0048713 |
| Total chemical costs: (corrected to same throughput) | $6851.67 | $4476.42 |
| Bbls. gasoline recovered | none | 3713 |
| Per cent gasoline recovered per bbl. total products treated | none | 0.46 |
| Gals. gasoline recovered per bbl. doctor reclaimed | none | 9.180 |
| Value of gasoline recovered at $0.0325 per gallon | none | $5068.87 |
| Four-month savings: | | |
| Chemicals saved | ..... | $2375.25 |
| Gasoline saved | ..... | $5068.87 |
| Total | ..... | $7444.12 |

The disadvantages encountered with the system have been entirely too few to compensate for the advantages. It had been considered possible, because of the nature of the installation, that breakdowns might occur, and for that reason, the old air and steam coils in the doctor tanks were retained. However, during four months' continuous operation, only one short shutdown was necessitated by the equipment. This involved the replacement of a bronze bearing in the centrifuge which had not been getting lubrication properly, an assembly fault easily corrected.

If the lead sulfide charge to the centrifuge is too heavy (contains too much solid material) the centrifuge may plug up and get out of balance, causing vibration. Provisions are made for introducing a stream of water or caustic into the machine while in motion to loosen and remove the solids. This is done once or twice per day as a matter of prevention, and entails no loss of materials, and only a few minutes for the procedure.

The regenerator requires no attention at all except as the operator wishes to change specifications on emerging chemicals. It is provided with a sump on the discharge end, controlled by a constant-leveling float which actuates the steam pump circulating regenerated doctor solution back to storage.

At the Globe plant, the installation has failed to come up to two expectations in its first four months' operation. Both are a result of lack of capacity. It was expected that it would not be necessary to centrifuge all of the spent doctor solution, in other words, that some separation of clear liquid would occur in the spent doctor tanks provided for the treating plant to drop used chemicals into. Had this been true, the clear liquid separating could have been pumped to storage directly and its lead percentage built up by adding strong regenerated doctor solution. The expected separation, however, did not occur and it was found necessary to run all spent doctor through both the centrifuge and the regenerator. It is possible that, on a sweeter crude, such separation would have occurred, and it is also possible that at a later date this may be accomplished.

It was further expected that the finished doctor would always be entirely clear and free of suspended solids. Actually, the doctor carries 1 to 3 per cent of finely divided lead sulfide; not enough to be harmful to the treating system, but enough to give the chemicals a dark color. Doctor tanks have not been cleaned of old sulfide since three or four months prior to the Bayway installation and it is hoped that such a cleaning (which had been periodic prior to the installation) might entirely clear the finished doctor.

The most impressive feature of the Bayway system is the monetary savings made possible by its operation. Regardless of the other benefits, any successful system in the refining industry today, must show a quick pay-out before it is even considered. It has been recognized for some time that measurable gasoline losses occur during sweetening operations and various estimates have been placed on the extent of these losses. Actual operating data is now available and should be pertinent information to the industry. The data covers, of course, only conditions existing in the Globe plant; still it is probable that similar conditions exist generally, the variable factors being largely matters of relative sourness of stock and efficiency of the plant sweetening system.

An interesting tabulation of data is given in Table 1. Under "conventional costs" are listed figures derived from a four-month operation of the sweetening system just prior to the Bayway installation, while under "Bayway costs" are listed the comparative figures for the four months' period subsequent to the installation.

The savings arrived at above, $7,444.12 for four months' operation cover only actual chemical savings and gasoline recovery. Steam, air, and other savings have not been included for reason that accurate figures were not available, but it is conservatively estimated that total savings would amount to at least $25,000 per year on this plant.

Some objection may arise to the figure of $0.0325 per gallon listed for the value of gasoline recovered. Tests on the recovered material show an average of 95 per cent boiling below 437° F., with an average endpoint of 462° F. The gasoline is straw in color (approximately 22 Saybolt) sweet, and noncorrosive. The odor is good and the gum not excessive. It could reasonably be added to refinery gasoline direct, but is rerun by preference at the Globe plant. The price set on it in the compilation was arbitrary but certainly conservative.

In conclusion, it may be pointed out that if proof were needed that the conventional plumbite sweetening operation is a wasteful step in refining, then the savings made possible by the simple modifications described here furnishes that proof.

There has been no intent to endorse or recommend the particular regeneration system described to the omission of any other sweetening or doctor recovery system but rather to compare its observed plant operating data with those of the conventional plumbite system.

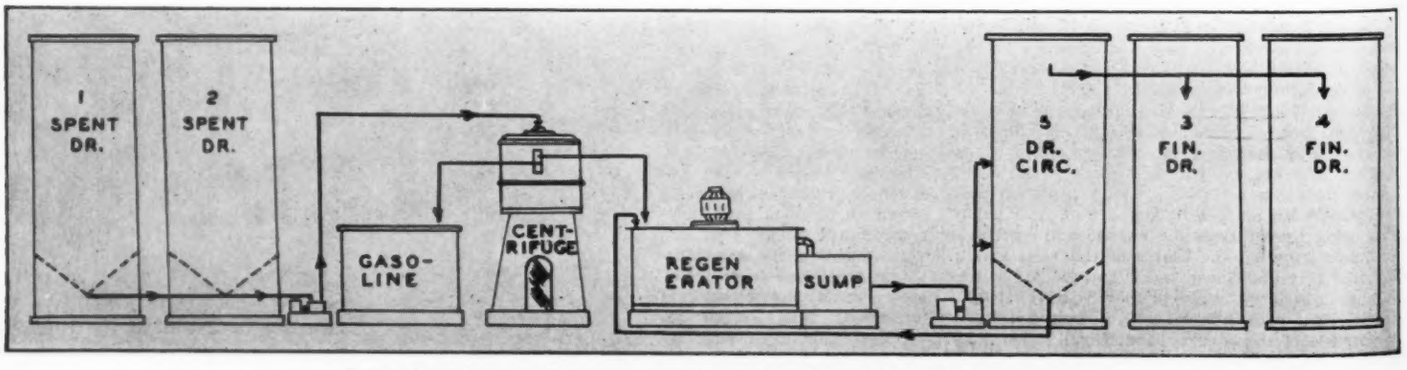


*Fig. 2—Flow diagram of the recovery system used by Globe in its McPherson refinery*

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# PROBLEMS FROM READERS

Edited by L. G. E. Bignell

## Gas-Lift for Small Wells

***Is the gas-lift suitable for small wells? Would appreciate it if you would inform me where this method is being employed for handling small wells, and restricted production.—E. J.***

In connection with the flowing of small wells, or wells restricted to small production, L. L. Foley advances the following thought:

"Gas-lift is the most natural of the artificial means of producing oil. It may be used economically under restricted production, especially in connection with gasoline plants. Many wells which are now being equipped for gas-lift will be produced to depletion by that method. It is possible that under restricted production, gas-lift may be assuming its proper role and achieving its greatest usefulness in the oil industry."[1]

S. F. Shaw states: "By some operators it has been supposed that the lifting of oil under restricted methods would operate to the disadvantage of gas-lift methods. It has been found, on the contrary, that the lifting of oil in small quantities by gas-lift, especially at a time when pressures are high, contributes to favorable conditions for this method, and also prolongs the length of time when such methods meet with favorable conditions; therefore, there is a long life for a compressor plant under such conditions. Under restricted conditions of production, the outlay of capital on gas-lift, and also the operating costs, are greatly reduced."[2]

The economical handling of small wells by any method whatsoever, is a serious undertaking. If your wells are already being produced by some method, in which the equipment is already installed for that method, whatever be that method, it is doubtful whether it would be profitable to change to any other method. Almost all wells that so far have been produced to the point of becoming small wells, have been placed on some type of sucker-rod pump, either individual pumping units, or on central powers, and it would probably not pay you to consider making a change, if you are already employing either of these two methods.

On the other hand, if your wells are new, and you wish to install the gas-lift with the idea of carrying the wells to exhaustion by this method, you can be reasonably assured of being able to employ this method, if you make certain of equipping the wells and plant in the correct manner.

Wells in the Oklahoma City field at depth of 6,500 feet have been carried to abandonment with gas-lift methods. It would appear probable that if this can be done in this deep field, that it would be a simple matter to follow this precedent in a field of less depth.

However, there are types of wells which would probably be better if produced by some other means than gas-lift, the most notable being those in which the oil is found in limestone deposits where water encroachment is heavy, and where there is a large percentage of hydrogen sulphide. Under these conditions corrosion troubles are serious in gas-lift wells.

Wells along the west edge of the East Texas field have already approached the point of abandonment and have been produced to this stage on air-lift. These wells are making very large percentages of water and conditions are such that the future would never justify installing any other form of equipment, since there would never be any chance of paying it out. Installation costs were cheaper per well than with almost any other method, and operating costs are comparatively low. The infrequency of pulling jobs is one of the strongest points in favor of this method in the East Texas field.

Most of the wells in the shallow Somerset field, Bexar County, Texas, are on central powers. Nevertheless, there are wells in that field that have been producing on air-lift for more than 10 years, employing intermittent flow.

[1] L. L. Foley, Gas-Lift and Restricted Production. Paper delivered before the Tulsa Meeting of the A.I.M.E. in October, 1934.

[2] S. F. Shaw, Handling Small Production by Gas-Lift, Oklahoma City Field. Petroleum Engineer, November, 1935.

## Can Gas Volume be Estimated by Water in Hole?

***We are drilling a wildcat well in Wyoming and are having some water trouble and at a depth of 1,660 feet struck a 40-foot sand which showed a good deal of gas breaking on the water when we bailed. We have 1,000 feet of water in the hole which is cased to within 20 feet of bottom. Would a small producing oil well be held back by this water? And how large a gas well would that much water hold back?—R. D. H.***

It is very hard to give you any satisfactory answer to these very general problems because real important information is lacking. You can estimate the hydrostatic pressure built up by 1,000 feet of water in the hole by multiplying 1,000×.434 pounds, the weight of a column of water 1 foot high expressed in terms of pressure exerted per square inch. This would indicate that there is at least 434 pounds pressure in the bottom of this hole but it is probably due to hydrostatic head rather than formation gas pressure.

If the gas is breaking through this 1,000 feet of water it is probable that the gas in under pressure in excess of 500 pounds per square inch at the bottom of the hole. However, this does not indicate volume and a little gas might make enough showing to be noticeable.

Our suggestion is to follow the advice of your drilling contractor, attempt to run casing and shut off this water and then go on drilling for in all probability this showing is not of any commercial value.

## Origin of Water Table on Derrick

***I have been unable to find an explanation or origin of the term "water table" as applied to an oil field derrick. Can you assist by giving me history of this term?—M. S.***

In answer to your question "why is a water table called a water table" we find that when the derricks were made of wood it was necessary to provide some means of protecting the upper end of the leg members from damage caused by water soaking in and rotting the timbers. Also it was necessary to deflect the water from the top of the derrick so it would not run directly down the legs on to the derrick floor, and to do this a board was nailed flat across the top braces of the derrick and it served very much as does the gable of a house in deflecting water. This project was given the name "water table" and it is probable that this term originally came from some nautical carpenter who had provided something of the same type on the masts of schooners, because we find that many of the common terms now used in the oil industry were taken from terms common to the sea.

## Welded vs. Screwed Joints for Small Pipe Lines

***We have had considerable discussion concerning the relative merit of using welded joints or screw joints in the construction of oil lines from 2 to 6 inches in diameter. I will appreciate any comments you care to make on type of construction and type pipe ends best suited for either gas or electric welded joints and any other information you may have at hand.—R. D. S.***

In general, screw joints are used for pipe lines up to the 4-inch size. If the 4- to 6-inch lines are laid for temporary use they are also connected with couplings. However, if they form main arteries in gathering systems or in main lines, modern practice in this section of the oil country is to have them welded.

In preparing the pipe for welding, the ends are usually beveled and electric welding seems to be more in favor now for connecting the pipe ends, but there are some who still use acetylene for this purpose.

Pipe line engineers state the normal weight pipe used for screwed couplings is usually satisfactory for welding, as the ends are beveled at 30 degrees for electric welding or from 40 to 45 degrees for acetylene welding. In the event the kind of weld to be used is not known in advance it is stated that the pipe can be safely beveled at 30 degrees for either an electric or a gas weld.

The usual practice is to leave a land on the end of the pipe about 1/32 of an inch thick, and in assembling, pipe clamps are used, the ends tacked together in the usual manner and then welded into short sections which are in turn bell-hole welded into the complete line.

The wall thickness of the pipe should be around one-fourth of an inch minimum thickness, but it is explained that if the ordinary pipe used for screwed couplings is available the walls will be thick enough for welding purposes.

On the 2-inch pipe there has to be developed a welding technique because of its size, but a good welder should be able to take care of this work on any size line.

## What Is "Grout" and "Slurry"

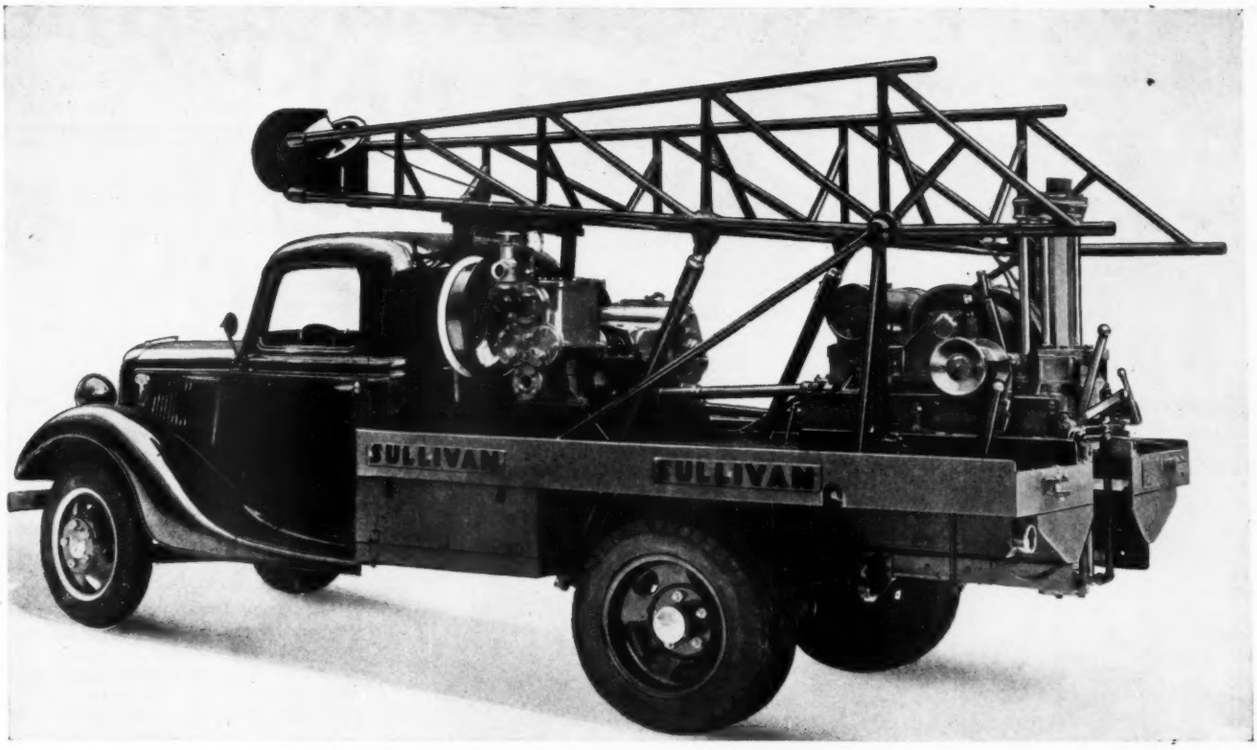
***Can you give me the exact meaning of "Grout" and "Slurry" as used in articles on cementing and mud jobs? One definition I have found states "Grout is a thin cement mixture forced in the crevice of a stratum to prevent ground water from seeping or flowing into an excavation." Unfortunately I do not find a like description of the word "Slurry" and ask your assistance. —F. H. A.***

You apparently have a clear understanding of "Grout." However, "Grout" or "Liquid Cement" is a thin, watery mortar comprised of either neat cement or cement and sand mixed in different proportions.

Slurry on the other hand is not necessarily a cement mixture. The word is evidently derived from the term "slur" which means to slip or slide. Slurry properly used applies to any thin, slippery mixture, it may be mud, fireclay or any other material mixed with water and used to coat a surface.

There is another use for the term slurry which is applied to the thin, watery mixture of the ingredients used in making cement. This mixture is not cement when in the slurry state but later is converted into cement when passed through the balance of the process.

# Motorized Shot Hole Drills for SEISMOGRAPH Exploration in the Oil Fields

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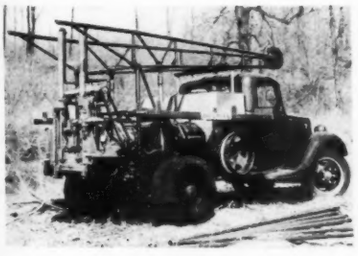

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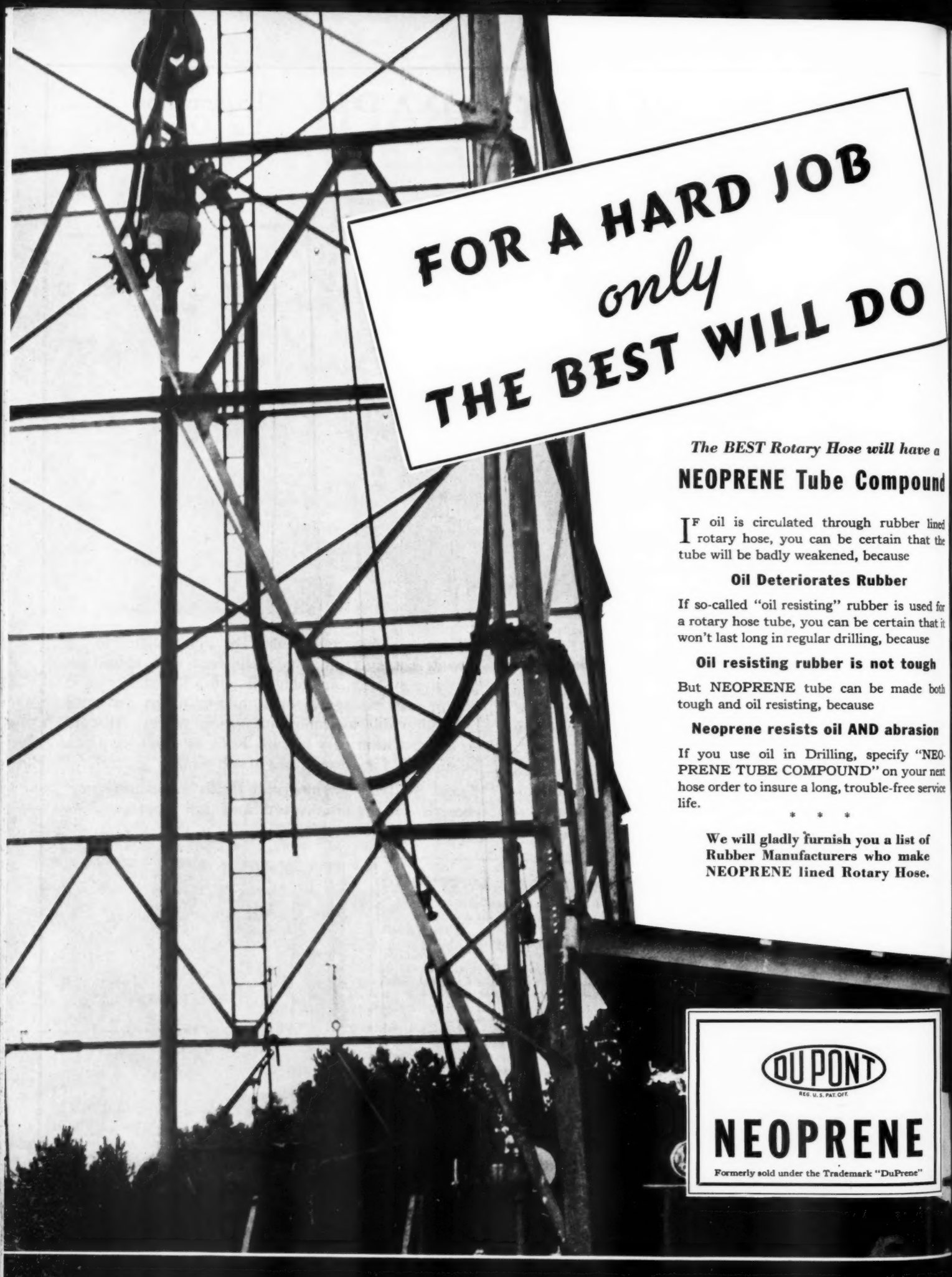

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# QUESTIONS ON TECHNOLOGY

By Charles K. Francis, Ph.D., Technical Editor

## Sulfur Recovery From Hydrogen Sulfide by Sodium Phenolate

***We want some information concerning a process for extracting sulfur, for making sulfuric acid, from refinery gases by the use of a phenol absorbing solution. If you have this we'll appreciate anything you can furnish.—S. R. E.***

A brief description of a sulfur recovery process utilizing sodium phenolate solution, for the washing of gas containing hydrogen sulfide, was described by L. P. Stockman in The Oil and Gas Journal, October 22, 1936, page 46. This referred to the operating unit of the Standard Oil Co. of California at the El Segundo refinery.

The gas from the refinery stills, etc., contains about 4.5 per cent hydrogen sulfide. The extracting unit has a daily capacity of 13,000,000 cubic feet.

The system, continuous, consists of an absorption stage and an actification stage. Absorption takes place in a sodium phenolate solution, which flows downward through absorption towers countercurrent to the rising gas. The phenolate solution containing the absorbed hydrogen sulfide is pumped to an actifier tower, where it comes in contact with steam, rising from a reboiler set at the base. The hot steam releases the hydrogen sulfide, which passes from the top of the tower to dephlegmators, for the removal of the steam. The released hydrogen sulfide is piped under its own pressure through a stainless steel pipe line, over a mile long, to a contact plant to be converted into sulfuric acid. The cost of the sulfur, delivered in this form to the acid plant, is said to be lower than if the sulfur were purchased in the form of brimstone.

In general, hydrogen sulfide is removed from refinery still-gas either for the primary purpose of making sulfuric acid or for the purpose of eliminating an undesirable constituent, or for a combination of both reasons. The design of the plant would not be materially affected by the use to which the hydrogen sulfide would be put. By the removal of hydrogen sulfide from refinery still gases in the polymerization process the possibility of forming mercaptans in this stage is eliminated due to the absence of one of the elements entering into the mercaptans.

This process is patented.

## Octane Rating of Aviation Fuels by C.F.R. Motor and Army Methods

***Do you have available or information of any kind showing the comparison of octane rating of aviation fuel as obtained by the Army Method as against results obtained with the C.F.R. Method?—G. J. S.***

There is no fixed relation between octane ratings of motor fuels as found by the C.F.R. Motor Method and those determined by that known as the Army Method. There is considerable difference in the test conditions of the two methods.

A few test results of representative motor fuels are shown in the table.

OCTANE NUMBER BY MOTOR AND ARMY METHODS

| Fuel— | Octane Number by Method C.F.R. Motor | Army |
|---|---|---|
| Gasoline S.R. and 3 cc. lead | 88 | 92 |
| Gasoline cracked and 2.9 cc. lead | 80 | 82 |
| Gasoline natural and 2.8 cc. lead | 83 | 83 |
| Benzol C.P. | 100 | 88 |
| Benzol 50% S.R. gasoline | 80 | 79 |

In general, the octane ratings of fuels up to approximately 80 octane are approximately the same by either the C.F.R. Motor Method or by the Army Method of test. Beginning at approximately 80 octane the ratings obtained on conventional straightrun gasolines by these two methods of test diverge in such a manner that a fuel which is rated at 92 octane by the Army Method will usually be rated at approximately 87 octane by the C.F.R. Motor Method, and a fuel which is rated at 100 octane by the Army Method will usually be rated between 95 and 100 octane by the C.F.R. Motor Method. However, the comparative ratings of fuels other than conventional straightrun gasoline may diverge in such a manner that such fuels may be rated lower by the Army Method than by the C.F.R. Motor Method; as example, one fuel which was rated at 86 octane and another which was rated at 88 octane by the Army Method were rated approximately 88 and 90, respectively, by the C.F.R. Motor Method.

## Fuels for Power Development

***Do you have any figures showing the relative heating values, for industrial purposes, of the total coal, oil and natural gas used per year in the United States? —D. E. R.***

The most important fuels of the United States were discussed on the basis of available energy in the Gas Age Record. Figures were given for a number of years back to 1913. The table below for the year 1934 has been arranged from this source.

SOURCES OF ENERGY FOR U. S. YEAR 1934

| | B.t.u. represented (trillions) |
|---|---|
| Coal | 10,970 |
| Oil | 5,661 |
| Natural gas | 1,904 |
| Water power | 1,896 |

Water power is converted to B.t.u. by assuming four pounds of coal produces the same power.

Reference: Gas Age Record, 77, 648, 1936.

## SPECIFICATIONS

### NAVY DIESEL FUEL OIL

The specifications for diesel fuel oil required by the U. S. Navy department are outlined in the table:

| Tests— | Limits |
|---|---|
| Flash, closed, °F. min. | 150 |
| Pour, °F. max. | 0 |
| Viscosity, S.S.U., at 100° F. | 35-45 |
| Water and sediment, per cent max. | 0.05 |
| Sulfur, per cent max. | 1.00 |
| Carbon residue, per cent max. | 0.20 |
| Ash, per cent max. | 0.01 |
| Corrosion at 212° F., copper | negative |
| Distillation temp., °F. at 90 per cent max. | 675 |
| Diesel index No., min. (or cetane No. min. 45) | 45 |

Diesel fuel oil shall be a petroleum distillate. It shall be free from grit, acid and fibrous or other foreign matter likely to clog or injure pumps, nozzles, or valves.

Reference: Navy Department Specification 7-0-2c. August 1, 1936.

## Intake Manifold Temperatures

***Has any work been done to determine the relationship between intake manifold temperatures and maximum compression ratios of gasoline engines? I have in mind temperatures from say 100° to 32° F.—D. W. R.***

Much of the work relating to temperatures of the fuel intake system of the automobile has been confined to a study of vapor lock. Bridgeman, White and Gary in a study of 1932-33 cars reported that the maximum gasoline temperatures of the average car at 40 m.p.h. on a level road and 100° F. atmospheric temperature were:

MAXIMUM TEMPERATURE OF GASOLINE IN FUEL SYSTEM

| Cars of— | Temp. °F. |
|---|---|
| 1930 and older | 130 |
| 1931 | 132 |
| 1932 | 128 |

A similar investigation by MacCoull and Barber gave:

| | |
|---|---|
| 1934 | 136 |
| 1935 | 145 |
| 1936 | 133 |

Barber and Kulason assuming a vapor to liquid ratio tolerance of 25 for 1936 cars and to show maximum fuel line temperature of 135° F. at 100° F. atmospheric and 110° F. with an atmospheric temperature of 65° F.

These have been reviewed by Moore and Stirton in The Oil and Gas Journal.

George G. Brown in a study of low engine and manifold temperatures made use of a special unheated intake manifold but preliminary tests indicated that ice would collect on the throttle and in the venture of the carburetor with the most volatile fuels. This difficulty was overcome by raising the temperature of the fuel to 105° F.-110° F. Data are presented indicating that use of the unheated manifold instead of the standard heated manifold increases the maximum speed approximately 2 per cent, or about that obtained by advancing the octane selector 14°, which corresponds in fuel knock rating from 30 to 74, or from about 40 to 78 octane number.

Doctor Brown's work included mixture temperatures with unheated and heated manifolds. The atmospheric temperatures ranging from 20° F. to around 85° F. In so far as performance is concerned, a decrease in mixture temperature of 50° F. and a corresponding increase in the volatility of the fuel used, is equivalent to an increase in octane number 25 numbers. The increase in rating corresponding to the range represented by about 50-55 number up to 75-80 octane number. The experimental work of this investigator suggests a linear relationship. This expressed in terms of increased octane number appears more reliable than an increase in compression ratio, because the compression ratio depends upon engine design and operating conditions together with mixture temperature.

References: Bridgeman, White and Gary, Vapor Handling Capacity of Automobile Fuel Systems, S.A.E., Jour., 32, 157, 1933. MacCoull and Barber, Vapor Locking Traits of Cars and Their Limitation on Gasoline Volatility, S.A.E., Jour., 37, 237, 1935. Barber and Kulason, The Correlation of Car and Fuel Vapor Locking Characteristics, S.A.E., Jour., 39, 351, 1936. Moore and Stirton, The Oil and Gas Journal, Nov. 19, 1936, page 49. George G. Brown, Road Tests Indicated Highly Volatile Gasolines Improve Motor Operation, The Oil and Gas Journal, Jan. 16, 1936, page 38, and Use of Highly Volatile Fuels Improves Motor Operation and Acceleration, same, Jan. 23, 1936, page 28.

Questions on Petroleum Technology may be sent to Dr. Charles K. Francis, The Oil and Gas Journal, Tulsa, Okla. When a copy of the answer is desired postage should be enclosed.

# Refining Schedules in Mid-Continent Slightly Decreased During March

By D. H. STORMONT

March crude runs to refineries in the Mid-Continent are scheduled to decrease slightly from the February total according to estimates made at the first of the month. While the total for all areas is only some 11,215 bbls. less than the previous month's total, operation in the various districts comprising the Mid-Continent show conflicting trends; some districts increasing and others reducing their daily average crude runs. Of the eight districts, three show increases and five decreases in daily crude runs to stills. The total amount of crude to be processed, 530,575 bbls. daily, will still remain well above the daily average of 478,760 bbls. in March, 1936, and thus establish a new seven-year mark for March.

East Texas, after a gain of 4,520 bbls. in February is again on the decline so far as refining activities are concerned; daily crude runs in this area being reduced 4,765 bbls. to a total of 52,385 bbls. daily. During the latter part of February there were only 12 refineries in the East Texas field operating on 24-hour schedules; the remainder (some six plants) operating only part time. However, these 18 plants which are the survivors of the some 90 plants that were once operating in this area are operating on a more stabilized basis. A year ago at this time there were 19 plants in operation, refining about 46,100 bbls. daily, while in March, 1935, there were 36 plants in operation with total daily crude runs of 49,170 bbls. Thus while the number of operating refineries continues to become slightly less, the amount of crude being refined in this area remains practically unchanged.

### Mid-Continent Crude Runs

**Average Daily (Barrels)**

(Advance estimate compiled by The Oil and Gas Journal)

| | 1935 | 1936 | 1937 |
|---|---|---|---|
| January | 426,070 | 501,600 | 531,535 |
| February | 448,810 | 519,960 | 541,790 |
| March | 451,510 | 478,760 | 530,575 |
| April | 467,765 | 506,775 | ..... |
| May | 466,015 | 513,510 | ..... |
| June | 485,015 | 527,225 | ..... |
| July | 494,210 | 539,370 | ..... |
| August | 508,960 | 557,650 | ..... |
| September | 541,080 | 553,215 | ..... |
| October | 533,620 | 536,330 | ..... |
| November | 524,475 | 548,015 | ..... |
| December | 511,025 | 535,500 | ..... |

**Operation by Refinery Districts**

Daily crude runs

| | Mar. | Feb. | Decr. |
|---|---|---|---|
| Arkansas | 23,300 | 24,100 | 800 |
| East Texas | 52,385 | 57,150 | 4,765 |
| Kansas | 126,950 | 128,050 | 1,100 |
| N. Central Texas | 40,250 | 40,150 | *100 |
| North Louisiana | 42,050 | 40,000 | *2,050 |
| Oklahoma | 151,950 | 157,290 | 5,340 |
| Southwest Texas | 20,600 | 20,160 | *440 |
| W. Tex. Panhandle | 73,090 | 74,890 | 1,800 |
| Total | 530,575 | 541,790 | 11,215 |

*Increase.

#### EAST TEXAS

Shut-down plants in the East Texas area at the first of the month included those of the Panama Refining Co., Reeds Refining Co., Royal Oil & Refining Co., Trinity Refining Co., and the Arp refinery of General American Refining Co. Several abandoned refineries in this area have been dismantled during the past several months while others have been torn down and moved to other new Texas fields. A few such small plants are operating in the Talco field, but since the gasoline content of the Talco crude is low and the straight-run gasoline of low-octane rating the number of such plants probably will never be appreciable.

Danciger Refineries, Inc. is reducing daily crude runs to its Longview refinery from 5,000 bbls. to 2,500 bbls. daily to account for the major portion of the reduction in East Texas.

#### RUNS REDUCED IN OKLAHOMA

The greater part of the decrease in crude runs for March may be accounted for by curtailed runs in Oklahoma where runs are being reduced from 157,290 bbls. to 151,950 bbls. daily. Continental Refining Co. is reducing runs to its Ponca City refinery by 5,400 bbls. daily. Several other companies are reducing their runs by smaller margins but these are largely offset by increases at other Oklahoma refineries.

Kansas refiners generally will maintain schedules at the same level as in February, the decrease of 1,100 bbls. being accounted for by a 1,000-bbl. decline in daily crude runs at the Socony-Vacuum Oil Co., Inc. Augusta refinery. One new refinery is now under construction in this district, that of the Shallow Water Refining Co. This company, headed by D. M. Dryden of McPherson, Kans., began building in February a 500-bbl. refinery in the Shallow Water field, 12 miles south of Scott City. Construction of a small refinery near Vinita, Okla., in the Pleasant Hill district is being delayed. Mayor A. D. Warner of Vinita and Stanley Evans of Tulsa are erecting the plant.

#### NORTH LOUISIANA

The 2,050-bbl. increase in North Louisiana was due mainly to an increased schedule at Arkansas Fuel Oil Co.'s Bossier City refinery where daily crude runs of 20,000 bbls. are being maintained during March. Refiners in North Central Texas and in Southwest Texas are maintaining runs at near February levels, while the Panhandle district shows a decrease of 1,800 bbls. daily.

The high level at which crude runs to stills have been maintained throughout the season of slackened demand is being reflected in the heavy gasoline stocks held by Mid-Continent refiners. The low point of gasoline stocks in the Mid-Continent during 1936 was in the last week of September, when they totaled approximately 7,200,000 bbls. according to A.P.I. weekly reports. Since that time stocks of motor fuel have been almost constantly on the upgrade and at the beginning of March were about 11,900 bbls. or some 1,600,000 bbls. more than at that time in 1936. However, total stocks held by refiners in the United States are only about 7 per cent higher than those of a year ago. Thus in view of an expected 8 or 9 per cent increase in gasoline consumption during 1937, stocks should not exert a disquieting influence on the gasoline market structure after the heavy consuming season is begun.

## Estimated Daily Average Mid-Continent Refinery Crude Runs for March

### ARKANSAS

| Company and location— | Daily capacity | Av. dly. runs Mar. | Av. dly. runs Feb. |
|---|---|---|---|
| Berry Asphalt Co., Waterloo | 2,000 | 1,000 | 1,200 |
| Henry H. Cross Co., Smackover | 6,000 | 4,500 | 5,000 |
| Lion Oil Ref. Co., El Dorado | 12,000 | 10,000 | 9,500 |
| Macmillan Pet. Corp., Norphlet | 2,500 | 2,000 | 2,000 |
| Root Pet. Co., El Dorado | 10,000 | 5,500 | 6,000 |
| Stephens Ref. Co., Stephens | 750 | 300 | 400 |
| Total | 33,250 | 23,300 | 24,100 |

*Shut down.

### KANSAS

| | | | |
|---|---|---|---|
| Barnsdall Ref. Co., Wichita | 6,000 | 5,000 | 5,000 |
| Chase Ref. Co., Chase | 1,000 | 500 | 500 |
| Cusco Oil & Ref. Co., Chase | 3,100 | (*) | (*) |
| Derby Oil Co., Wichita | 8,000 | 5,500 | 5,500 |
| Dickey Ref. Co., McPherson | 2,500 | 1,500 | 1,500 |
| El Dorado Ref. Co., Eldorado | 5,000 | 3,500 | 3,500 |
| Falcon Ref. Co., Inc., Great Bend | 800 | 500 | 500 |
| Globe Oil & Ref. Co., McPherson | 12,000 | 10,000 | 10,000 |
| Kanotex Ref. Co., Arkansas City | 12,000 | 6,000 | 6,000 |
| Kreuger Ref. Co., Laton | 150 | 50 | 50 |
| National Ref. Co., Coffeyville | 8,000 | 4,000 | 4,000 |
| Pet. Products Co., Chanute | 1,000 | 800 | 800 |
| Phillips Pet. Co., Kansas City | 18,000 | 14,200 | 13,400 |
| Russell Ref. Co., Russell | 1,250 | (*) | (*) |
| Shallow Water Ref. Co., Scott City | 1,500 | (†) | ..... |
| Shell Petroleum Corp., Arkansas City | 20,000 | 18,700 | 19,000 |
| Sinclair Ref. Co., Coffeyville | 20,000 | 8,500 | 8,500 |
| Sinclair Ref. Co., Argentine | 11,000 | 7,000 | 7,000 |
| Skelly Oil Co., Eldorado | 23,000 | 16,500 | 17,000 |
| Socony-Vacuum Oil Co., Inc., Augusta | 20,000 | 17,000 | 18,000 |
| Standard Oil Co. (Indiana), Neodesha | 20,000 | 5,500 | 5,500 |
| Vickers Pet. Co., Potwin | 3,500 | 2,200 | 2,300 |
| Total | 196,450 | 126,950 | 128,050 |

*Shut down. †Under construction.

### OKLAHOMA

| | | | |
|---|---|---|---|
| Anderson-Prichard Oil Corp., Cyril | 6,000 | 4,500 | 4,500 |
| Barnsdall Ref. Co., Barnsdall | 6,000 | 3,500 | 3,500 |
| Barnsdall Ref. Co., Okmulgee | 10,000 | 4,500 | 5,000 |
| Bell Oil & Gas Co., Grandfield | 5,000 | 3,000 | 3,000 |
| Black Gold Ref. Co., Oklahoma City | 3,000 | 1,800 | 1,800 |
| Champlin Ref. Co., Enid | 16,000 | 6,000 | 6,000 |
| Continental Oil Co., Ponca City | 30,000 | 20,300 | 25,700 |
| Cushing Ref. & Gasoline Co., Blackwell | 1,700 | 1,700 | 1,700 |
| Cushing Ref. & Gasoline Co., Cushing | 6,200 | 2,500 | 2,500 |
| Deep Rock Oil Corp., Cushing | 10,000 | 9,000 | 9,000 |
| Eason Oil Co., Enid | 5,000 | 2,300 | 2,500 |
| Empire Oil & Ref. Co., Okmulgee | 4,000 | 2,200 | 2,200 |
| Empire Oil & Ref. Co., Ponca City | 12,000 | 9,000 | 8,000 |
| Globe Oil & Ref. Co., Blackwell | 8,000 | 4,500 | 4,500 |
| Johnson Oil Ref. Co., Cleveland | 6,000 | 3,200 | 3,500 |
| Mid-Continent Pet. Corp., West Tulsa | 40,000 | 19,000 | 19,000 |
| Ohio Oil Co., Bristow | 5,000 | 3,200 | 3,200 |
| Omar Ref. Co., Garber | 8,000 | 2,500 | 2,500 |
| Peppers Gasoline Co., Oklahoma City | 500 | 400 | 400 |
| Phillips Pet. Co., Okmulgee | 6,000 | 5,400 | 4,500 |
| Pure Oil Co., Muskogee | 10,000 | 9,400 | 9,720 |
| Rock Island Ref. Co., Beckett | 6,000 | 2,500 | 2,500 |
| Sinclair Ref. Co., Sand Springs | 8,000 | 4,500 | 4,500 |
| Sooner State Ref. Co., Oklahoma City | 700 | 350 | 350 |
| Sun Oil Co., Yale | 5,000 | 2,000 | 2,000 |

| Company and location— | Daily capacity | Av. dly. runs— Mar. | Feb. |
|---|---|---|---|
| Sunray Oil Co., Allen | 7,000 | 3,400 | 3,400 |
| Texas Co., West Texas | 15,000 | 9,500 | 10,000 |
| Tide Water Oil Co., Drumright | 15,000 | 11,000 | 8,500 |
| Triangle Prod. & Ref. Co., Oklahoma City | 1,200 | 900 | 900 |
| S. L. West Ref. Co., Oklahoma City | 1,000 | 200 | 200 |
| Wilcox Oil & Gas Co., Bristow | 6,000 | 2,200 | 2,200 |
| Yale Oil Corp., Yale | 2,000 | (*) | (*) |
| Total | 265,300 | 151,950 | 157,290 |

*Shut down.

## EAST TEXAS

| | | | |
|---|---|---|---|
| Beacon Oil & Ref. Co., Henderson | 4,500 | 340 | 125 |
| Cascade Ref. Co., Reed Switch | 3,000 | 760 | 940 |
| Chief Ref. Co., Gladewater | 2,000 | 150 | 320 |
| Clay Ref. Co., Arp | 2,500 | 2,960 | 2,295 |
| Danciger Refineries, Inc., Longview | 10,000 | 2,500 | 5,000 |
| East Texas Ref. Co., Longview | 10,000 | 7,000 | 5,625 |
| General American Ref. Co., No. 1, Gladewater | 4,000 | 2,485 | 3,420 |
| General American Ref. Co. No. 2, Overton | 5,500 | 2,410 | 3,195 |
| General American Ref. Co. No. 3, Arp | 4,000 | (*) | 1,580 |
| Glade Ref. Co., Gladewater | 2,500 | 165 | (*) |
| Hurricane Pet. Corp., Overton | 5,000 | 3,690 | 3,470 |
| Hurricane Pet. Corp., Arp Ref., Arp | 3,750 | 2,915 | 3,485 |
| Kilgore Ref. Co., Inc., Kilgore | 4,000 | 1,245 | 1,725 |
| Magnolia Pet. Co., Corsicana | 5,000 | 3,000 | 3,100 |
| Master Pet. Co., Waco | 1,000 | (*) | (*) |
| Ocean Pet. Corp., Kilgore | 3,000 | 1,415 | 1,500 |
| Premier Oil Ref. of Texas, Willow Springs | 4,500 | 3,000 | 3,000 |
| Panama Ref. Co., Kilgore | 3,000 | (*) | (*) |
| Reeds Ref. Co., Reeds Switch | 1,500 | (*) | 180 |
| Royal Oil & Ref. Co., Kilgore | 2,000 | (*) | 90 |
| Seltex Ref. Co., Gladewater | 3,000 | 1,400 | 440 |
| Sinclair Ref. Co., Camp Switch | 3,500 | 2,000 | 2,000 |
| Solvex Refineries, Inc., Gladewater | 4,500 | 3,000 | 3,000 |
| Southport Pet. Co., Kilgore | 5,000 | 3,000 | 3,000 |
| Texas Co., The, Dallas | 16,000 | 7,000 | 7,000 |
| Trinity Ref. Co., Gladewater | 6,000 | (*) | 920 |
| Tower Ref. Co., Overton | 3,000 | 1,950 | 1,710 |
| Total | 120,825 | 52,385 | 57,150 |

*Shut down.

## NORTH LOUISIANA

| | | | |
|---|---|---|---|
| Acme Ref. Co., Monroe | 100 | 50 | 50 |
| Arkansas Fuel Oil Co., Bosier City | 25,000 | 20,000 | 18,000 |
| Atlas Pipe Line Co., Shreveport | 12,500 | 7,000 | 7,000 |
| Bayou State Oil Corp., Hosston | 750 | 500 | 450 |
| Griswold Refineries, Shreveport | 2,500 | 1,000 | 1,000 |
| Griswold Refineries, Sandra | 5,000 | 1,000 | 1,000 |
| North Caddo Refinery, Rodessa | 1,000 | 500 | 500 |
| Pelican Ref. Co., Converse | 100 | (*) | (*) |
| Rodessa Oil & Ref. Corp., Cedar Grove | 7,500 | 5,000 | 5,000 |
| Shoreline Oil Co., Lewis | 5,000 | 3,000 | 3,000 |
| Stanolind Oil & Gas Co., Superior | 5,000 | 4,000 | 4,000 |
| Texas Co., Shreveport | 1,000 | (*) | (*) |
| Total | 64,450 | 42,050 | 40,000 |

*Shut down.

## SOUTHWEST TEXAS

| | | | |
|---|---|---|---|
| Amsco Ref. Co., Mirando City | 4,500 | 3,150 | 3,150 |
| Humble Oil & Ref. Co., San Antonio | 5,000 | 2,500 | 2,500 |
| Imperial Gasoline Corp., Houston | 4,000 | 700 | 700 |
| Ina Oil & Ref. Co., Hondo | 400 | 50 | 50 |
| Magnolia Pet. Co., Luling | 8,000 | 5,100 | 5,180 |
| Pettus Oil & Ref. Co., No. 1, Pettus | 1,000 | 850 | 850 |
| Pettus Oil & Ref. Co., No. 2, Pettus | 1,000 | 650 | 650 |
| Phoenix Ref. Co., San Antonio | 1,200 | 1,000 | 1,000 |
| Phoenix Ref. Co., Bruni | 900 | 600 | 600 |
| Pioneer Oil & Ref. Co., Somerset | 2,000 | 1,200 | 1,200 |
| Rado Ref. & Prod. Co., McAllen | 800 | 500 | 500 |
| Ranne Ref. Co., Mathis | 1,000 | 500 | 500 |
| Rio Oil & Ref. Co., Sullivan City | 1,000 | 300 | 300 |
| Texas Co., San Antonio | 3,000 | 2,800 | 2,800 |
| Valley Ref. Co., Harlingen | 1,000 | 700 | 180 |
| Total | 34,800 | 20,600 | 20,160 |

*Shut down.

## NORTH CENTRAL TEXAS

| | | | |
|---|---|---|---|
| Allstate Ref. Co., Thrall | 2,500 | (*) | (*) |
| Baird Ref. Co., Baird | 1,500 | 1,200 | 1,200 |
| Continental Oil Co., Wichita Falls | 6,000 | 4,100 | 4,000 |
| Crown Oil Co., Fort Worth | 1,200 | 600 | 600 |
| Exchange Pet. Corp., Albany | 800 | 250 | 250 |
| Falls Ref. Co., Wichita Falls | 2,000 | 300 | 300 |
| Gainesville Ref. Corp., Gainesville | 1,800 | 1,450 | 1,500 |
| Gratex Ref. & Fuel Oil Co., Graham | 500 | 300 | 300 |
| Gulf Oil Corp., Fort Worth | 6,000 | 5,000 | 5,000 |
| Hightower Oil & Ref. Corp., Brownwood | 750 | 100 | 100 |
| Jacksboro Ref. Co., Jacksboro | 50 | 50 | 50 |
| La Salle Pet. Co., Burkburnett | 3,500 | 800 | 800 |
| Magnolia Pet. Co., Fort Worth No. 1 | 12,000 | 5,100 | 5,100 |
| Norgold Ref. Co., West Olney | 500 | 200 | 200 |
| Ohio Oil Co., Fort Worth | 5,000 | 4,600 | 4,600 |
| Olney Oil & Ref. Co., North Olney | 3,500 | 1,700 | 1,500 |
| Panhandle Ref. Co., Wichita Falls | 3,300 | 2,000 | 2,500 |
| Panhanddle Ref. Co., Lueders | 1,000 | 800 | 750 |
| Pilot Point Ref. Co., Pilot Point | 500 | 100 | 100 |
| Sinclair Ref. Co., Fort Worth | 5,000 | 3,000 | 3,000 |
| Southland Ref. Co., Megargel | 500 | 200 | 200 |
| Taylor Ref. Co., Taylor | 6,000 | 800 | 800 |
| Taxman Ref. Co., Wichita Falls | 3,000 | 2,700 | 2,200 |
| Texas Pacific Coal & Oil Co., Caddo | 350 | 175 | 175 |
| Texas Pacific Coal & Oil Co., Strawn | 125 | 50 | 50 |
| Tucker Ref. Co., Wichita Falls | 250 | 175 | 175 |
| Tydal Refining Co., Gainesville | 2,000 | 1,200 | 1,200 |
| Wagoner Ref. Co., Electra | 6,000 | 3,500 | 3,500 |
| Total | 75,525 | 40,250 | 40,150 |

*Shut down.

## WEST TEXAS AND PANHANDLE

| | | | |
|---|---|---|---|
| Aero Ref. Co., Pecos | 200 | 100 | 100 |
| Coltex Ref. Co., Colorado | 12,500 | 8,000 | 8,000 |
| Concho Ref. Co., San Angelo | 250 | 100 | 100 |
| Cosden Oil Co., Big Spring | 12,500 | 9,000 | 9,000 |
| Danciger Refs., Inc., Pampa | 6,500 | 4,500 | 5,000 |
| Gibson Oil Corp., Magic City | 250 | 150 | 150 |
| Gulf Oil Corp., Sweetwater | 7,000 | 5,000 | 6,300 |
| Howard County Ref. Co., Big Spring | 1,500 | 600 | 600 |
| McNutt Ref. Co., El Paso | 2,000 | 750 | 750 |
| Moutray Oil Co., Hawley | 1,200 | 1,025 | 1,025 |
| Onyx Refining Corp., Hawley | 1,500 | 1,200 | 1,200 |
| Panhandle Ref. Co., Kings Mill | 2,000 | 1,750 | 1,750 |
| Phillips Pet. Co., Borger | 50,000 | 21,300 | 20,800 |
| Shamrock Oil & Gas Corp., Sunray | 2,500 | 1,500 | 1,500 |
| Shamrock Oil & Gas Corp., Meldavis | 1,600 | 1,500 | 1,500 |
| Standard Oil Co. of Texas, El Paso | 14,000 | 9,650 | 9,650 |
| Starlight Ref. Co., Ballinger | 500 | 150 | 150 |
| Texas Co., El Paso | 2,000 | 1,000 | 1,000 |
| Texas Co., Amarillo | 4,000 | 2,500 | 2,800 |
| West Texas Ref. Co., Pecos | 6,000 | 1,375 | 1,375 |
| Western Ref. Co., Mertzon | 1,000 | 400 | 400 |
| West Texas Oil & Ref. Co., Sweetwater | 60 | 40 | 40 |
| Wickett Pet. Co., Wickett | 2,500 | 1,500 | 1,700 |
| Total | 124,260 | 73,090 | 74,850 |

*Shut down.


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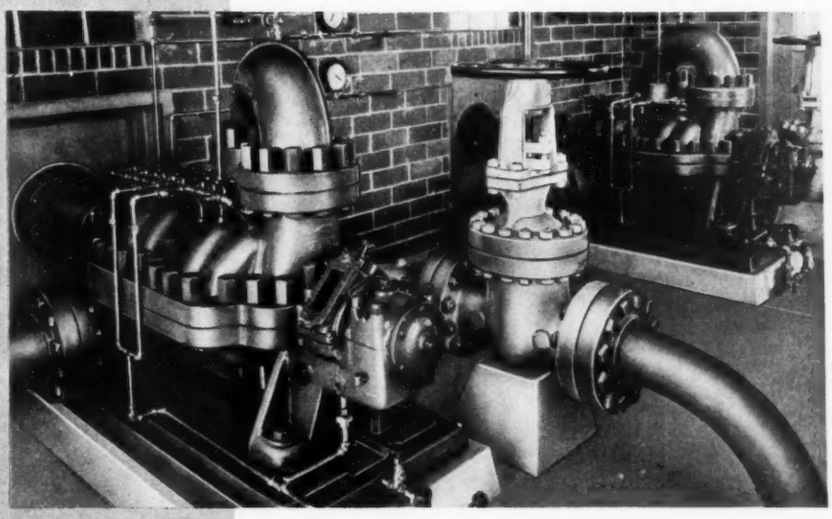
Fig. No. 3360—high pressure multi-stage centrifugal pump built especially for oil pipe line or refinery service.



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7040

# BEACONS

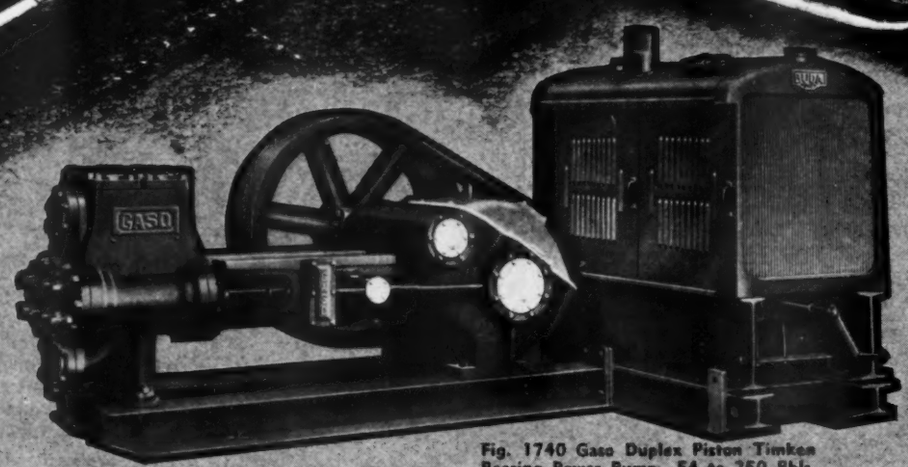



Fig. 1740 Gaso Duplex Piston Timken Bearing Power Pump. 54 to 250 Bbls.

Just as the beacons guide the aviator to his destination, so do the names of certain manufacturers guide the purchaser to honest value. . . . Gaso is proud to belong to this group. . . . To oil men everywhere, the Gaso mark is a dependable guide to *economical* performance, backed by *reliable* service. . . . Gaso Pump & Burner Mfg. Co., Tulsa, Okla. Export Office: 149 Broadway, New York.

Complete Gaso Condensed Catalog, in 1937 Composite Catalog

## GASO PUMPS
### for every oil industry need

# FIELD OPERATIONS

## *Summarizing the Week's Developments*

Production in the Rodessa area in Caddo Parish, Louisiana, was extended to within a quarter of a mile of the Arkansas state line in the past week by a 580-bbl. well producing from the Mitchell and Gloyd sands, through perforated pipe. All other completions in Rodessa were on the Cass County, Texas, side.

**TEXAS**

Crane and Ward counties supplied the largest initial producers in the West Texas field, a well in Crane County starting at 5,457 bbls. and three in Ward County starting at 5,472 bbls., 4,233 bbls. and 4,320 bbls. respectively. The Crane County well had been acidized and the Ward County wells shot with nitroglycerine. Winkler County completions included three averaging over 1,200 bbls. per well.

In the North Texas area Jack County led in good sized completions. The Talco field in Eastern Texas slowed down in new work and the seven completions were all put on the pump. East Texas has 41 new oil wells, but nine of them were completed on gas lift. In southwest Texas, pools were extended and new sands in old pools penetrated, but no new pools were sighted. On the Texas side of the Gulf Coast division, producing sands were discovered in the Old Ocean and Bay City areas in Brazoria and Matagorda counties, respectively. On the Louisiana Coast there is evidence of a new field being developed around the flank of the old Jefferson Island Salt dome in Iberia Parish.

**KANSAS**

Opening of a Viola lime oil pool in the Medicine Lodge gas area, Barber County, Kansas, was indicated. Two wildcats in the Geneseo district, Rice County, were showing as producers. The Lerado pool, Reno County, was extended a quarter of a mile south. The first dry hole was completed in the prolific Trapp pool, Russell County. Kansas produced an average of 187,350 bbls. per day in the past week, a new production peak for the state.

**OKLAHOMA**

North Bethel pool, Seminole County, Oklahoma, was extended one-half mile east. A wildcat in northwestern Kiowa County gave promise of opening a new oil area. Another gusher was completed in the Moore field, Cleveland County, and an interesting wildcat was started in that county between the Moore pool and Norman.

**MICHIGAN**

The new Buckeye field in Gladwin County, Michigan, is expected to lead all pools in the state in production before this week ends. Four wells with initial production of 4,800 bbls. were completed last week, and production of the state was increased to an average of 34,020 bbls. per day.

**ROCKY MOUNTAIN AREA**

New Mexico scored a new production peak in the past week with an average of 103,250 bbls. per day, of which 101,020 bbls. were credited to Lea County. Another important wildcat test in Eastern Colorado looks like a failure. It is in Kiowa County, and is shut down at 6,175 feet awaiting owner's orders.

**CALIFORNIA**

Prospects of a new producing zone in the Rosecrans field in Los Angeles Basin, California, and favorable showings in the Newhall-Saugus district, also in the Basin, in San Benito County, and in the Rosecrans area, were the high spots.

## *Completions in All Fields*

(Week Ending March 6, 1937)

| | Oil | Gas | Dry | Total | 1937 total comp. to date | 1936 total comp. to date |
|---|---|---|---|---|---|---|
| Penna. Grade Fields | 47 | 16 | 8 | 71 | 615 | 482 |
| Lima Field | 0 | 1 | 0 | 1 | 14 | 11 |
| Central Ohio | 1 | 11 | 2 | 14 | 149 | 46 |
| Indiana | 0 | 0 | 0 | 0 | 26 | 30 |
| Kentucky | 3 | 0 | 0 | 3 | 25 | 33 |
| Illinois | 0 | 0 | 0 | 0 | 1 | 9 |
| Michigan | 9 | 2 | 3 | 14 | 137 | 121 |
| Kansas | 22 | 2 | 12 | 36 | 338 | 234 |
| Oklahoma | 39 | 1 | 11 | 51 | 450 | 408 |
| Texas: | | | | | | |
| North Central Texas | 29 | 1 | 30 | 60 | 451 | 424 |
| West Texas | 44 | 0 | 3 | 47 | 421 | 210 |
| Texas Panhandle | 9 | 1 | 0 | 10 | 110 | 121 |
| East Central Texas | 14 | 0 | 2 | 16 | 113 | 44 |
| East Texas | 41 | 0 | 1 | 42 | 379 | 479 |
| East Texas border | 7 | 0 | 0 | 7 | 82 | 3 |
| Gulf Coast Texas | 12 | 1 | 6 | 19 | 211 | 179 |
| Southwest Texas | 45 | 5 | 12 | 62 | 590 | 398 |
| Total Texas | 201 | 8 | 54 | 263 | 2,357 | 1,858 |
| North Louisiana | 2 | 0 | 1 | 3 | 66 | 107 |
| Gulf Coast Louisiana | 4 | 0 | 4 | 8 | 82 | 60 |
| Total Louisiana | 6 | 0 | 5 | 11 | 148 | 167 |
| Arkansas | 1 | 0 | 3 | 4 | 18 | 19 |
| Montana | 0 | 0 | 2 | 2 | 15 | 19 |
| Wyoming | 0 | 0 | 0 | 0 | 15 | 14 |
| Colorado | 1 | 0 | 0 | 1 | 5 | 6 |
| New Mexico | 16 | 0 | 0 | 16 | 131 | 76 |
| Utah | 0 | 0 | 0 | 0 | 0 | 1 |
| California | 17 | 1 | 10 | 28 | 239 | 199 |
| Total United States | 363 | 42 | 110 | 515 | 4,683 | 3,733 |
| Total previous week | 356 | 38 | 115 | 509 | | |
| Difference | 7 | 4 | 5 | 6 | | |

## *Outstanding Fields—Highlights*

(Week Ending March 6, 1937)

| FIELD— | Rigs up | Wells drlg. | Weekly oil completions | Initial prod. | Total No. oil wells | Daily av. prod. |
|---|---|---|---|---|---|---|
| **TEXAS** | | | | | | |
| Anahuac | 4 | 7 | 0 | 0 | 154 | 12,397 |
| Hastings | 4 | 8 | 2 | 1,124 | 146 | 11,976 |
| Loma Novia | 1 | 4 | 1 | 20 | 663 | 15,870 |
| Seven Sisters | 1 | 4 | 2 | 755 | 791 | 8,810 |
| Saxet | 4 | 31 | 10 | 1,080 | 394 | 26,790 |
| Lopez | 2 | 3 | 3 | 995 | 292 | 7,070 |
| East Texas | 39 | 103 | 41 | 1,504 | 22,280 | 460,398 |
| Talco | 10 | 36 | 7 | 1,552 | 227 | 18,450 |
| **OKLAHOMA** | | | | | | |
| Oklahoma City | 2 | 22 | 4 | 3,011 | 1,098 | 131,875 |
| Fitts | 5 | 65 | 8 | 3,257 | 640 | 76,125 |
| Burbank-S. Burbank | 1 | 4 | 0 | 0 | 2,165 | 23,350 |
| **KANSAS** | | | | | | |
| Ellis County | 4 | 20 | 0 | 0 | 80 | 4,695 |
| Reno County | 7 | 30 | 2 | 1,137 | 267 | 19,795 |
| Russell County | 12 | 53 | 5 | 6,349 | 592 | 28,440 |
| Rice County | 12 | 60 | 5 | 2,486 | 709 | 45,860 |
| **NEW MEXICO** | | | | | | |
| Lea County | 17 | 96 | 15 | 2,844 | 2,058 | 101,020 |
| **LOUISIANA-TEXAS** | | | | | | |
| Rodessa, La. | 2 | 16 | 1 | 580 | 350 | 50,310 |
| Rodessa, Tex. | 7 | 38 | 9 | 6,223 | 220 | 39,122 |
| Gillis, La. | 2 | 3 | 0 | 0 | 58 | 16,539 |
| Tepetate, La. | 2 | 2 | 0 | 0 | 41 | 5,876 |
| **MICHIGAN** | | | | | | |
| Porter-Yost | 3 | 6 | 1 | 70 | 430 | 13,115 |
| Crystal-Montcalm | 5 | 6 | 0 | 0 | 149 | 3,020 |

# Kansas Developments

# MEDICINE LODGE TEST FINDS OIL SHOWING IN VIOLA LIME

By
DAL DALRYMPLE

The opening of a Viola lime pool in Barber County, southern Kansas, appeared imminent with a well on the west side of the old Medicine Lodge gas field showing oil. The Barbara Oil Co. No. 1 Holmes, C E half SE section 15-33-13w, topped Viola lime at 4,845 feet, drilled 3 feet into the lime and began spraying oil. No test of production was made, the well being shut in to permit installation of a separator and to build tanks. Some observers estimated the potential oil production at 500 bbls. daily. Estimates of gas, coming from Mississippi lime at 4,565-81 feet, ranged from 1,500,000 to 3,000,000 feet.

The well is about 12 miles southwest of the town of Medicine Lodge, and about 60 miles east and slightly south of the Olson Oil Co.'s recent Viola lime strike in Clark County. If completed as an oil producer, it will open the second oil pool in Barber County, the other being the Whelan pool northeast of Medicine Lodge.

Two Rice County wildcats were showing as pool openers or extensioners. The Empire Oil & Refining Co. No. 1 Bantterton, SE SW SE section 11-18-8w, was bottomed at 3,270 feet and made potential of 268 bbls. of oil. It topped Siliceous lime at 3,246 feet. It is southwest of Geneseo townsite. Three-fourths of a mile northeast of the Bantterton and a mile south of Geneseo townsite, Continental Oil Co. and others No. 1 Michekls, NE NE SW section 12-18-8w, topped Siliceous lime at 3,201 feet and recovered saturated cores from 3,205 to 3,210 feet. Casing was to be run and cemented on top of the pay before drilling in.

The Lerado pool of Reno County was extended one-fourth mile south at Empire Oil & Refining Co. No. 1 Fluke, NW NE SW section 15-26-9w. It topped Viola lime at 4,152 feet; had pay at 4,158-63 feet, total depth, was acidized and flowed 400 bbls. of oil through tubing in 4½ hours. It was not a completion.

Prospects were favorable for completion of the second oil well in the Morrison pool, Clark County. Olson Oil Co. No. 2 Morrison, C NW NE section 20-32-21w, was reported producing oil at the rate of 200 bbls. daily, with water apparently being exhausted. It topped Viola lime at 6,498 feet and is bottomed at 6,518 feet. Location is one-fourth mile southeast of the discovery well, which produced 2,358 bbls. of oil in 24 hours initially. The oil is being moved by train and truck to a Wichita refinery.

## Rice County

Continental Oil Co. No. 2 Ainsworth A, SW SE NW section 30-18-7w, Geneseo area, Rice County, had Siliceous lime at 3,179 feet and was bottomed at 3,188 feet. It was acidized with 1,000 gallons and made potential of 1,023 bbls. of oil.

In the Silica field, J. H. Tatlock No. 4 Drew, SW NW SW section 5-20-10w, had Siliceous lime at 3,319 feet; total depth, 3,337 feet; treated with 1,000 gallons of acid and made potential of 946 bbls. of oil.

Two wells were completed in the Wenke area. Buchanan and others No. 1 Wenke, NE NW SE section 18-20-10w, topped Siliceous lime at 3,299 feet; total depth, 3,311 feet; water intruded and it was plugged back to 3,310 feet. It pumped 100 bbls. of oil in five hours; acidized with 1,000 gallons and made potential of 553 bbls. of oil, with 12 bbls. of water. Gulf Oil Corp. No. 1 Hirsch, SE SW NE section 18-20-10w, topped Siliceous lime at 3,277 feet; total depth, 3,297 feet. After treating with 1,000 gallons of acid, it pumped 297 bbls. of oil in 18 hours and made 24-hour potential of 343 bbls. It was reacidized with 1,500 gallons and pumped 288 bbls. of oil in 17 hours.

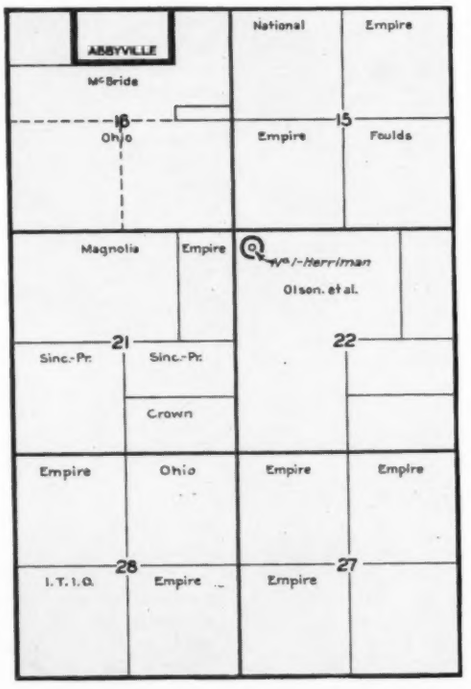
In the Chase field, Rose & Son No. 1 Callis, SW SE SW section 32-19-9w, pumped 120 bbls. of oil in three hours after treating with 1,000 gallons of acid and made potential of 350 bbls. It topped Siliceous lime at 3,205 feet and was bottomed at 3,214 feet. E. V. Holland and others No. 1 Callis, NE SE SW section 32-19-9w, topped Siliceous lime at 3,263 feet, water intruded, and it was dry and abandoned at 3,320 feet, total depth.

Atlantic Refining Co. No. 2 Scott, SE SW SE section 20-20-10w, in the Raymond area, had water at 3,305-07 feet, total depth; plugged back to 3,289 feet and shot, but was dry and abandoned.

## A Wildcat Failure

Carlock and others No. 1 Deweese, SW NW NW section 32-20-7w, wildcat, topped Kansas City at 2,895 feet; Conglomerate, 3,315 feet; Chat, 3,355 feet; Hunton, 3,481 feet; Viola, 3,612 feet; Simpson, 3,649½ feet, with a hole full of water; and was dry and abandoned at 3,675 feet, total depth.

First reports of new work in Rice County were as follows: Transwestern Oil Co. No. 3 Stumps, NW NE SW section 4-18-10w, cellar; Gulf Oil Corp. No. 1 Steckel, SE NE NE section 31-19-10w, drilling at 925 feet; Sinclair Prairie Oil Co. No. 3 Proffitt, NE NW NW section 3-20-10w, rigging up rotary; Ohio Oil Co. No. 3 Proffitt, SW NW SE section 18-20-9w, location; Bradley Oil Co. and others No. 1 Ginter Heirs, NW cor. section 13-20-8w, wildcat, location; Fred Phillips and others No. 1 Hubenett, SW NW SW section 23-20-6w, wildcat, building rig; Garden-Haines Oil Co. No. 1 Gossman, SW SE NW section 9-21-7w, rotary rig; Sage and others No. 3 Gossman, SE SW NW section 9-21-7w, ponds; Westgate-Greenland Oil Co. and others No. 2 Johnson, NW SE NE section 17-21-7w, ponds.




*Olson Drilling Co. and associates have started work at No. 1 Herriman, NW cor. section 22-24-8w, Reno County wildcat.—(Mid-Continent Map Co., Wichita)*

Empire Oil & Refining Co. No. 1 Banterton, SE SW SE section 11-18-8w, wildcat southwest of Geneseo townsite, topped Siliceous lime at 3,246 feet; total depth, 3,270 feet; acidized with 2,000 gallons; pumped 207 bbls. of oil with a trace of water in 19 hours, and made potential of 268 bbls. in 24 hours, but was not completed. Gulf Oil Corp. No. 4 Steckel, NE SE NE section 31-19-10w, topped Siliceous lime at 3,285 feet; total depth, 3,296 feet, and swabbed 198 bbls. of oil in six hours. Same operator's No. 10 Stoltz, C S half N half NW section 32-19-10w, was bottomed at 3,303 feet; swabbed 396 bbls. of oil in eight hours, with 4 per cent water, and pumped 414 bbls. of oil and 276 bbls. of water in 14 hours. Top of Siliceous lime was 3,288 feet. Gulf Oil Corp. No. 4 Knop, SE NW NW section 33-19-10w, pumped 949 bbls. of oil in 14 hours after treating with 1,000 gallons of acid; top of Siliceous lime was 3,275 feet; total depth, 3,291 feet. Atlantic Refining Co. No. 1 Gossman, NE NE SE section 8-21-7w, was bottomed at 3,361 feet and swabbed 18 bbls. of oil an hour for six hours and flowed 40 bbls. of oil the seventh hour. Top of Conglomerate was 3,343 feet.

## Estimated Daily Production

Estimated daily average production of Kansas for the week ending March 6, and for the preceding week, was as follows:

| | Barrels | |
|---|---|---|
| | Mar. 6 | Feb. 27 |
| Oxford City | 2,700 | 2,725 |
| Burrton | 15,875 | 16,075 |
| Ritz-Canton | 5,675 | 5,700 |
| Graber | 2,100 | 3,075 |
| Hollow-Nikkel | 3,575 | 3,600 |
| Voshell | 3,050 | 3,050 |
| Wellington | 2,750 | 2,775 |
| Ellsworth County: | | |
| Lorraine-South Lorraine | 6,850 | 6,800 |
| Other pools | 1,590 | 1,415 |
| Rice-Barton counties: | | |
| Bloomer | 3,700 | 3,875 |
| Chase | 11,275 | 9,950 |
| Geneseo | 2,750 | 2,500 |
| Raymond | 2,900 | 2,350 |
| Silica | 16,025 | 17,450 |
| Keesling | 2,550 | 2,450 |
| Hauschild | 3,500 | 3,625 |
| Miscellaneous Rice | 6,860 | 5,690 |
| Miscellaneous Barton | 4,200 | 3,995 |
| Russell County: | | |
| Fairport | 2,665 | 2,685 |
| Gorham-East Gorham | 3,790 | 3,395 |
| Russell | 2,475 | 2,525 |
| Sullivan | 5,995 | 4,120 |
| Trapp | 6,495 | 6,050 |
| Miscellaneous Russell | 7,020 | 6,135 |
| Sedgwick County: | | |
| Valley Center | 1,320 | 1,315 |
| Greenwich | 1,330 | 1,340 |
| Miscellaneous Sedgwick | 1,955 | 2,025 |
| Ellis County: | | |
| Bemis | 2,725 | 2,050 |
| Miscellaneous Ellis | 1,970 | 1,365 |
| Kingman County | 815 | 710 |
| Stafford County | 2,160 | 2,475 |
| Greenwood County | 9,100 | 9,500 |
| Butler County | 17,500 | 17,650 |
| Other fields | 22,110 | 22,735 |
| Total | 187,350 | 183,175 |

## Barton County

Simpson Oil Co. and Atlantic Refining Co. No. 2 Hiss, SW NW NE section 31-20-13w, Hiss pool, Barton County, topped Kansas City lime at 3,188 feet and was completed at 3,290 feet, total depth. It flowed 658 bbls. of oil naturally in three hours; was acidized with 5,000 gallons, flowed 1,053 bbls. in 12 hours and made potential of 1,701 bbls.

Stanolind Oil & Gas Co. No. 1 Riemann, SW SW NW section 34-16-13w, Ainsworth area, topped Siliceous lime at 3,369 feet; total depth, 3,376 feet; swabbed 150 bbls. of oil in three hours and

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*and for taking complete, accurate cores there is nothing to equal...*

## USE IT FOR

- ✓positive proof as to whether any sand is oil-bearing, water-bearing, or dry;
- ✓picking up low-pressure sands which may be made productive by shooting;
- ✓unfailing selection of proper casing locations;
- ✓determining exact position for perfect water shut-offs;
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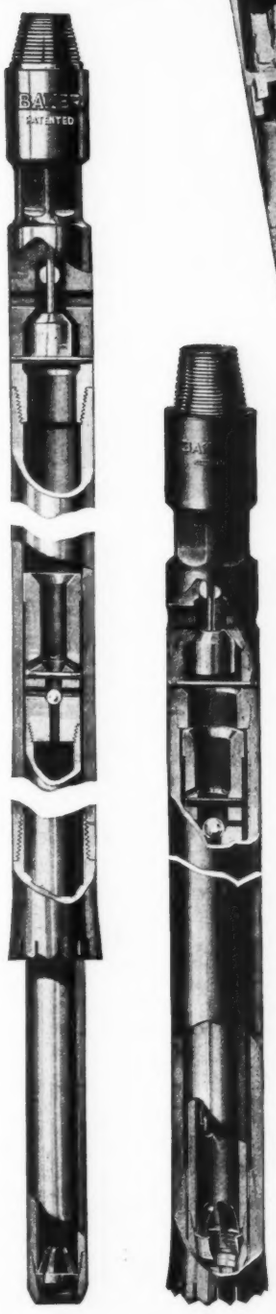
- ✓determining approximate inclination of formations;
- ✓locating breaks in sands separating oil-bearing from water-bearing horizons;
- ✓securing cores for exact lithographic and paleographic determination.

**Refer to Pages 225 - 232 of the 1937 COMPOSITE CATALOG or ask for the Baker Catalog**

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Coring with a Baker Cable Tool Core Barrel is usually as fast as with straight drilling, especially when new Drill Barrel Shoes are used. Drillers appreciate the ability of this modern core barrel to cut fast, full-gauge hole.

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The sturdy, simple construction assures long service, and the high core recovery, combined with other advantages of fast drilling and the full, true cores obtained, all provide the lowest possible costs. You should have complete information in your files—why not let us send you details?

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# *Cores tell the "hole" story!*

made potential of 1,624 bbls. in 24 hours, down one hour.

New work in Barton County: George Dickey and others No. 1 Boger, SE SE NE section 15-16-13w, wildcat, cellar; C. B. Davis and Gulf Oil Corp. No. 9 Steckel, SE SW SE section 1-20-11w, rotary rig.

### Russell County

The largest of two wells completed in the Trapp area, Russell County, was Shell Petroleum Corp. No. 6 Michaelis, SW SE NE section 31-15-13w. It topped Siliceous lime and set 7-inch casing at 3,329 feet; total depth, 3,335 feet. It was acidized with 4,000 gallons and made potential of 2,396 bbls. of oil. W. I. Southern, Inc., No. 3 Boomhower, SW SW NW section 32-15-13w, made potential of 2,378 bbls. of oil after treating with 4,000 gallons of acid. It topped Siliceous lime at 3,304 feet and had pay at 3,307-10 feet, total depth. Coralena Oil Co. No. 2 Chester Sellens, NE NW NW section 29-15-13w, topped Siliceous lime at 3,271 feet; had a hole full of water at 3,280 feet and was dry and abandoned at 3,283 feet, total depth.

In the Gorham-Sullivan area, Skelly Oil Co. No. 3 Dumler, SE SW NE section 1-14-15w, topped Topeka lime at 2,772 feet; total depth, 2,775 feet; acidized with 2,000 gallons, pumped 866 bbls. of oil in 10 hours and made potential of 1,801 bbls. A. H. Witt No. 7 Witt, NW NE SE section 3-14-15w, had Tarkio lime at 2,505 feet; total depth, 2,565 feet. It swabbed 187 bbls. of oil the first hour; flowed and swabbed 430 bbls. in 10 hours and made potential of 1,434 bbls. Gulf Oil Corp. No. 6 Ehrlich, SE SE SW section 1-14-15w, pumped 522 bbls. of oil in 24 hours after acidizing with 1,000 gallons. It was bottomed at 2,789 feet. Topeka lime was found at 2,735 feet. Bridgeport Machine Co. No. 3 Dortland, C S half NE section 8-14-15w, was dry and abandoned at 3,306 feet, total depth.

New work in Russell County: Bridgeport Machine Co. No. 4 Mills B, NW SW SE section 33-13-15w, rigging up; Equity Gas Co. No. 3 Gross, NW SW NE section 31-13-12w, spudded; Stanolind Oil & Gas Co. No. 3 Dortland, NW NE SE section 5-14-15w, location; National Refining Co. No. 2 West Reinhardt A, SE NE NW section 36-14-15w, building rig; Alva Billings No. 1-A Herbel, SE SE SW section 26-14-14w, an old well being deepened, drilling at 3,169 feet; Goldstein & Vernon Oil & Gas Co. No. 1 Steinert Estate, NE SE NW section 34-15-15w, wildcat, moving in material; Gulf Oil Corp. No. 2 Michaelis, NE NE SW section 32-15-13w, cellar.

Phillips Petroleum Co. and Indian Territory Illuminating Oil Co. No. 2 Jellison, NW NE NW section 30-13-14w, pumped 92 bbls. of oil in six hours after treating with 1,000 gallons of acid. It topped Siliceous lime at 3,216 feet and was bottomed at 3,232 feet. Transwestern Oil Co. No. 4 Polcyn B, SW NE SE section 10-14-15w, had sand at 3,262 feet; total depth, 3,267 feet; and pumped 668 bbls. of oil in 20 hours.

### Reno County

Two large wells were completed in the Lerado field, Reno County. Shell Petroleum Corp. No. 4 Reese, C S half S half SW section 11-26-9w, topped Viola lime, the producing horizon, at 4,135 feet; total depth, 4,138 feet. It was acidized with 1,000 gallons, flowed 477 bbls. of oil, with 4 per cent basic sediment and water, in three hours, and made potential of 3,780 bbls. of oil.

Shell Petroleum Corp. No. 4 Whipple, SE SW NE section 15-26-9w, flowed 660 bbls. of oil in six hours after treating with 4,000 gallons of acid and made potential of 2,447 bbls. of oil, with 10 per cent water. It topped Viola lime at 4,141 feet; total depth, 4,146 feet. Same operator's No. 1 Mauck, SW NW NE section 14-26-9w, an old well, was deepened from 4,137 feet to 4,838 feet and completed as a water disposal well.

First reports of new work in Reno County: Ballard & Wallace No. 1 Lyman, NW NW SE section 16-24-4w, location; Ohio Oil Co. No. 5 Priddle, C N half S half SE section 17-24-4w, moving in material; Barnsdall Oil Co. No. 2 Westfall A, C W half W half SE section 19-24-4w, location; same company's No. 3 Westfall A, NE SE SE section 19-24-4w, location; Carter Oil Co. No. 2 Hogan, C E half E half SW section 19-24-4w, rotary rig.

### Chautauqua County

C. E. Skiles and others No. 1 Shaffer, SW SW NE section 23-32-10, Chautauqua County, topped Chat at 1,938 feet; total depth, 1,980 feet, and was completed as a 50-bbl. well.

Sagamore Oil Co. No. 1 Cunningham, SE SE SW section 8-32-11, had pay at 1,315-24 feet, total depth, and produced 500,000 feet of gas.

Denman Brothers No. 2 Lewis, C N half NE SE section 15-33-12, had Oswego lime at 1,312-82 feet; water at 1,707-12 feet, total depth, and was dry and abandoned.

Brosius and others No. 1 Morris, SW NW SW section 6-32-12, wildcat, topped Chat at 1,795 feet; had a hole full of water at 1,828 feet; and was dry and abandoned at 2,165 feet, total depth.

W. M. McKnabb No. 1 Griffith, SW cor. section 11-32-10, wildcat, was a location.

### Elk County

The fourth large Siliceous lime well was completed in the Key pool, southern Elk County, at Dillar Oil & Gas Co. No. 4 Key, SE SE NE section 26-31-10. Siliceous lime was topped at 2,296 feet and the drill stopped at exactly 6 inches in the pay. The hole filled rapidly with oil and its potential was estimated at 2,000 to 2,500 bbls. daily. As is customary in that part of the state, however, no production test was made and the well was to be shut in and produced at the rate of 50 bbls. of oil daily, an agreement common among operators in the new Siliceous lime pools of Elk and Chautauqua counties.

Work was starting on another Siliceous lime test in the Key pool at Diller Oil & Gas Corp. No. 2 Cochran, NW NW SW section 25-31-10, where ponds had been dug.

### Greenwood County

Superior Oil Co. No. 10 Jones, NW SE SW


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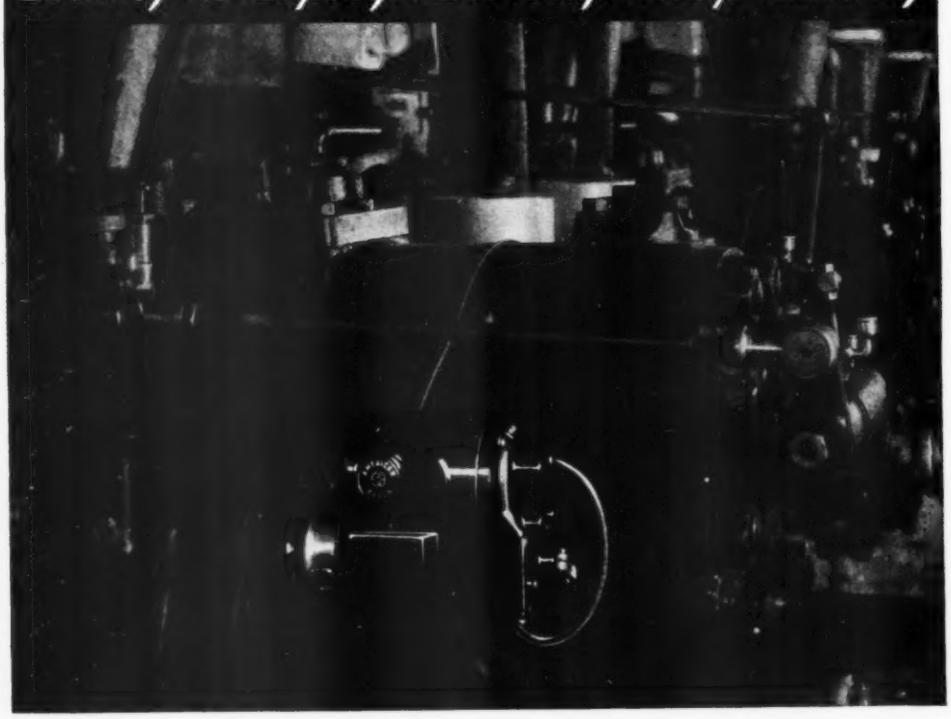

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section 21-23-13, Greenwood County, topped lime at 1,665 feet; total depth, 1,702 feet; acidized with 2,000 gallons and pumped 94 bbls. of oil in 24 hours.

### Sumner County

Stelbar Oil Corp. No. 2 Rothrock, C W half E half NW section 4-32-1w, Wellington pool, Sumner County, made potential of 982 bbls. of oil after acid treatment. It topped Chat at 3,646 feet and was bottomed at 3,699 feet.

The second Wellington completion of the week was at Stelbar Oil Corp. No. 5 Frankum, SW SE NE section 32-31-1w, topped Chat at 3,656 feet; total depth, 3,690 feet; acidized with 3,000 gallons and made potential of 614 bbls. of oil.

Transwestern Oil Co. No. 1 McKee, NW NW SE section 5-32-1w, was the only new operation reported in Sumner County. Cellar had been dug.

### Cowley County

Lloyd, Frost & Study and others No. 4 McKinley A, SW SW NE section 33-31-3, Weathered pool, Cowley County, was officially completed in Siliceous lime at 3,271-89 feet, total depth. It flowed 3,084 bbls. of oil in 24 hours.

New work in Cowley County: Lloyd, Frost & Study and others No. 1 Wilson, NE NE SW section 33-31-3, cellar; Ben Gralapp and others No. 1 Lorton, SW NW SE section 13-34-6, location; Ryan Consolidated Oil Co. No. 1 Couch, SW SW SE section 13-30-5, wildcat, moving in material; Lloyd, Frost & Study and others No. 1 Carson, NW NW SE section 33-31-3, cellar.

### Butler County

Saco Oil Co. No. 2 Brainerd B, SW SE SW section 35-24-3, Butler County, topped lime at 2,706 feet; total depth, 2,708 feet; acidized with 2,000 gallons and made potential of 340 bbls. of oil, in two days.

Rex & Morris No. 1 DeMoss B, NW NW SE section 5-28-7, had sand at 2,710-46 feet, total depth; shot and pumped 140 bbls. of oil in 24 hours.

Cox & McGinnis No. 1 Faulders, SW SW NE section 27-25-3, Butler County wildcat, topped Kansas City at 2,300 feet; Chat, 2,745 feet; lime, 2,758 feet; showing of oil at 2,779-81 feet; hole full of water, 2,800 feet; Viola lime, 3,120 feet; had a hole full of water in Siliceous lime at 3,269-77 feet, total depth, and was dry and abandoned.

Three new operations in Butler County were reported. Vickers Petroleum Co. No. 1 Voth, C N half NE NE section 32-24-4, wildcat, was a location. Rex & Morris No. 1 Gilmore, SE SE NE section 13-25-6, wildcat, was moving in machine. Molk Petroleum Co. No. 11 Loomis, NE SW NW section 15-27-4, had spudded.

### Kearny County

Helmerick & Payne and others No. 2 Jones, C S half S half SE section 25-26-35w, Kearney County, found gas at 2,760 feet; total depth, 2,815 feet; plugged back to 2,761 feet, produced 2,500,000 feet of gas and was completed.

J. L. Murphy No. 1 Masonic Home, C NW section 1-26-36w, Kearny County wildcat, was moving in material.

### Woodson County

Alexander and others No. 1 Dreyer, NW cor. section 25-23-13, Woodson County, topped lime at 1,770 feet, water intruded at 1,794-1,800 feet, total depth, and it was dry and abandoned.

### McPherson County

Whan and others No. 1 Osterberg, NE NE NW section 9-19-2w, Ritz Canton area, McPherson County, had a hole full of water at 2,450 feet, total depth, and was dry and abandoned. It topped Kansas City lime at 2,327 feet.

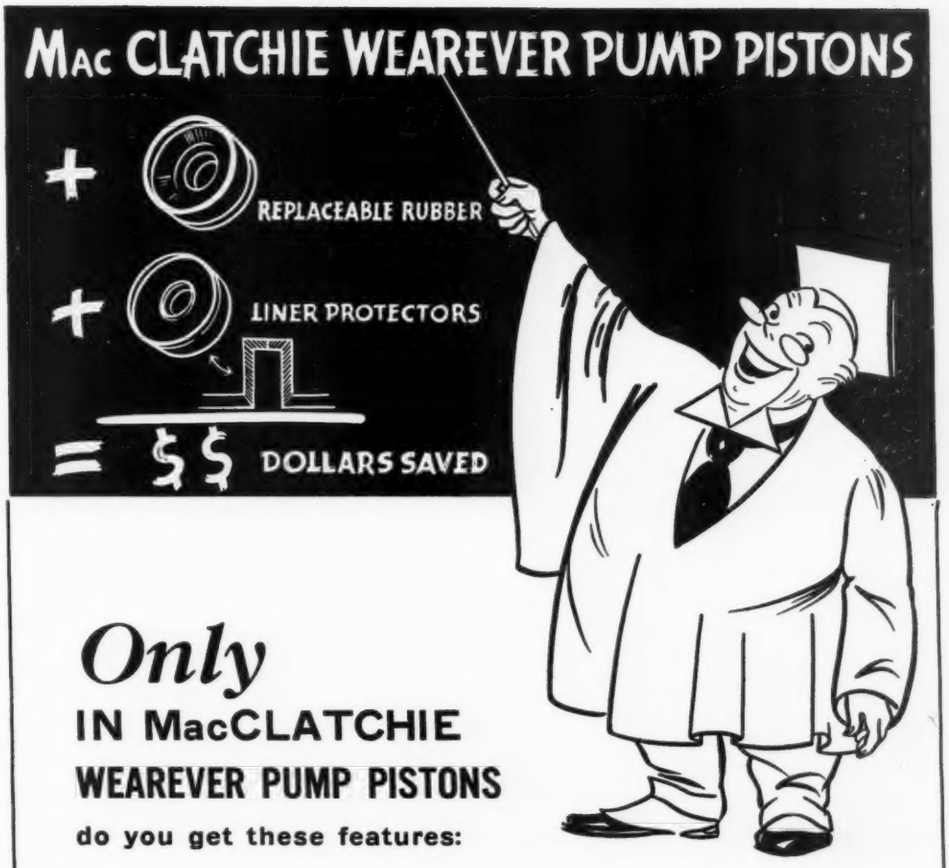
Derby Oil Co. No. 4 Arnold, NW NW SW section 16-21-1w, only new operation reported in McPherson County, was a cellar.

### Lane County

K. C. Bates and others No. 1 Nimocks, C NW NE section 16-16-28w, wildcat in Lane County, was dry and abandoned in Siliceous lime at 4,890-5,121 feet, total depth. It topped anhydrite at 2,065 feet; Topeka, 3,587 feet; had showing of oil at 3,870 feet; Kansas City, 3,980 feet; several show-

*(Continued on Page 99)*


MAC CLATCHIE WEAREVER PUMP PISTONS

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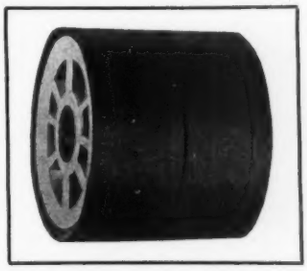

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# Eastern Field Report

By STAFF CORRESPONDENT

# PLENTY OF WORK BUT SMALL RESULTS IN OLDER DISTRICTS

PITTSBURGH, Pa., Mar. 3.—No outside deep tests were completed during the week and results were unimportant except for two deep tests completed in the Oriskany field in West Virginia in which the volume was small and the rock pressure low. Completions consisted of 26 operations which resulted in seven dry holes, 15 gas wells and four producers with an initial daily production of only 23 bbls.

## SOUTHEAST OHIO

The best well of the week in Southeast Ohio was completed by the Wittmer Co. on the Henry W. Ingersoll farm, Lot 96, Grafton Township, Lorain County, Clinton sand, total depth 2,664 feet, and is a gas well gauging 900,000 feet a day. It is making some oil along with the gas, and a separator and tank will be set.

In Licking County, H. W. Scott and others drilled a second test on the Kemp & McCracken farm in the SE quarter of section 2, Hopewell Township, through the Clinton sand to 2,989 feet. It was dry. In section 16, Perry Township, of this county, the Preston Oil Co. drilled a failure on the David E. Wright farm through the Berea sand to 669 feet. It had a small showing of oil.

In Medina County, the E. R. Edson & Son Co. No. 2 Ray Koons, Lot 20, Chatham Township, was completed in the Berea grit at 556 feet and made 20 bbls. the first day after shot. On Lot 23 of this township, G. S. Lacknett drilled tests No. 2 and 3 on the H. O. Gunder farm through the Berea grit and both were dry. The No. 2 was drilled to a depth of 364 feet and No. 3 to 370 feet.

In Perry County, the Wehrle Co. completed No. 5 Robert Beaver, section 2, Monroe Township, in the Berea sand at a depth of 1,137 feet. It gauged 30,000 feet a day.

In Washington County, Oscar F. Rupple has a 1-bbl. well on his own lot at Upper Lowell, Lot 11, Adams Township, in the Berea grit at a depth of 1,665 feet.

In Poland Township, Mahoning County, Harold C. Phillips and others will drill the deep test on the Richard and Bell Fenton farm through the Oriskany sand after setting some bottom pipe. The top of the Oriskany sand was at 4,012 feet with gas and water showing at 4,014 feet.

## SOUTHWEST PENNSYLVANIA

Progress was made in two of the deep tests drilling in Southwest Pennsylvania. On Chestnut Ridge, the deep test of William Snee and others on the Summit Hotel property in South Union Township, Fayette County, is being cased to the bottom of the Tully lime. After clearing an obstruction at 5,700 feet, three joints of 7-inch, 30-pound casing were run in the hole on the cable to bottom or 6,100 feet. At present, there is 4,500 feet of casing in the hole, and work is progressing smoothly. After casing, there will be about 511 feet to drill to reach the pay.

In Independence Township, Beaver County, the tools were recovered in the Laughner Oil & Gas Co. and the American Natural Gas Co. test on the William Wilsman farm and the hole cemented and drilling resumed. Another gas blowout occurred and the tools were again lost, but recovered, and it is drilling at 5,120 feet.

In Franklin Township, Butler County, a mile south of Prospect, the test of the American Natural Gas Co. and the T. W. Phillips Gas & Oil Co. on the Perry S. Davis farm reached 5,295 feet in the Brown shale, and a gas blowout stuck the tools, which could not be jarred loose, and it is now a fishing job.

In Mount Pleasant Township, Washington County, the deep test of Norwood Johnston and others on the James McBurney farm is again drilling. The tools were recovered after a gas blowout, and the present depth is just below 6,000 feet. On account of the blowouts, drilling is proceeding cautiously with a 6-inch bit and then followed with the reamer to full 10 inches. In this hole, the last pipe run was 1,349 feet of 10-inch and it has been carried as a 10-inch hole to bottom with a cement spray bailer being used to prevent caving.

### Routine Work

Two gas wells were completed in Southwest Pennsylvania. In Wayne Township, Greene County, Manufacturers Light & Heat Co. completed a test on the J. S. and O. R. Kiger farm at a total depth of 2,228 feet. The Big Injun sand was at 2,180 feet with 379,000 feet of gas at 2,192-2,215 feet.

In Washington County, Scott and others completed No. 5 on the Crouch farm in Nottingham Township at 2,495 feet. The top of the Fifty-foot sand was at 2,472 feet, with about 350,000 feet of gas at 2,491 feet.

In Greene County, Charles Mong and others are moving in a rig for a test on the John Metz farm in Center Township. The Carnegie Natural Gas Co. has reached a depth of 3,154 feet in No. 2 on the J. W. Milliken farm and expects to reach the Nineveh Thirty-foot sand or producing pay this week. The South Penn Oil Co. is down 695 feet in No. 10 Charles Harvey.

In Richhill Township, Greene County, Ross Burns is drilling on the John Phillips farm. The Big Injun sand was at 1,875 feet with a showing of gas estimated at 40,000 feet a day. The depth is now 2,010 feet.

In Dunkard Township, the Carnegie Natural Gas Co. is shut down at 2,285 feet on the Ella B. Parker test for engine repairs, and drilling at 1,550 feet on the Dale Brand farm.

In Amwell Township, Washington County, the Carnegie Natural Gas Co. has reached 760 feet on the N. B. Redd farm. Bloom & Bloom are shut down in the Fifth sand in their test on the Clyde Hinerman farm. Perrin & Co. are drilling in the Fifth sand in the test on the B. A. Bonham farm, depth 2,900 feet.

In Peters Township Washington County, Henderson and others have reached 660 feet on the Bell heirs test. R. M. Duden and others are spudding in the test on the McDowell heirs farm. In Somerset Township, Victor Behm and others have reached 2,540 feet in a test on the Hosack farm. The Fifty-foot sand was at 2,345-85 feet with 250,000 feet of gas at 2,350 feet. In Morris Township, the Manufacturers Light & Heat Co. is drilling at 430 feet on the W. E. Craft farm.

## WEST VIRGINIA

Two small producers were completed in West Virginia. In Ritchie County, the Marietta Oil & Gas Co. completed a test on the W. E. Conaway farm in Grant district in the Squaw sand at a depth of 1,635 feet. It is small and will make a half-barrel pumper.

In Roane County, L. L. Reed and others completed a test on the L. L. Reed farm in Harper district in the Salt sand at a depth of 1,475 feet. It is showing for 1 bbl. a day and may not be shot or produced.

### Gas Wells

In Boone County, the Owens Illinois Glass Co. completed a test on the Letha Myer Tract B in Washington district in the Berea sand at a depth of 2,197 feet as a gas well gauging 139,000 feet a day.

In Cabell County, the National Gas Corp. completed a test on the R. Taylor Morris farm in Guyandotte district at a depth of 2,772 feet as a gas well. It made 250,000 feet of gas per day after a shot at 2,368-2,690 feet.

In Calhoun County, Verl Stewart and others test on the J. S. Owens farm in Sherman district gauged 29,113 feet before shot. Big Injun sand was at 1,827-1,925 feet, with the gas at 1,904-25 feet.

In Gilmer County, H. B. Scott test on the Norris heirs farm in Center district gauged 33,624 feet a day before shot. Pay was at 1,915-50 feet. In Glenville district, F. G. Bish completed a small gasser on the Mary E. Snider farm at a total depth of 2,008 feet. In DeKalb district, Howard Robinson test on the C. F. Stalnaker farm was dry and abandoned at 1,708 feet.

In Kanawha County, the Ten Mile Oil & Gas Co. drilled No. 19 on the H. C. Dickinson farm in Jefferson district through the Injun sand and it was dry; total depth 2,156 feet.

In Pleasants County, H. F. Simonton and others, drilling as the Max Oil & Gas Co., completed a 300,000-foot gasser on the C. P. and Delphia O. Simonton farm in Lafayette district in the Big Injun sand at a depth of 1,812 feet.

In Ritchie County, Clay district, the Oil & Gas Co., on the P. S. Burbridge farm, found Squaw sand at 2,050 feet and the well gauges 1,088,000 feet a day. In Grant district, McCarthy & Hoff, on the A. E. Dye heirs farm, drilled through Berea sand to 2,320 feet and it was dry.

In Roane County, L. C. Young and others completed a test on the B. R. and J. R. Fields farm in Harper district at a total depth of 1,460 feet. The Salt sand was at 1,409 feet, with 1,777,950 feet of gas showing at 1,411-56 feet.

In Upshur County, the Cumberland-Allegheny Co. completed a test on the Grace Ridgeway farm in Buckhanan district at a depth of 4,275 feet. It is a gas well in the Benson sand with a gauge of 71,000 feet a day.

### Oriskany Field

Two small gas wells were completed in the Oriskany field during the week. In the Campbell Creek field, No. 11 on the Campbell Creek Coal Co. lease was completed by Godfrey L. Cabot, Inc., at a total depth of 5,060 feet and has a showing of 400,000 feet a day. It is in Malden district, Kanawha County.

In the Coopers Creek field, United Fuel Gas Co. completed No. 4,689 on the W. C. McKee, guardian, lease in Elk district at a depth of 4,933 feet as a gas well gauging 704,000 feet a day which is small for this area.

In Poca district, Kanawha County, an important test is nearing completion. The Mullins Gas Co. is drilling at 4,784 feet in the test on the J. F. Corke farm with the top of the Corniferous lime at 4,766 feet. This will be an extension to the southwest of the Facemeyer test in which the lime had thickened and the gas volume heavy.

### Outside Deep Tests

The deep test of Godfrey L. Cabot, Inc., on the Allen Hardman farm on the west flank of Archers anticline about 3 miles west of Grantsville is shut down at about 5,936 feet. After cementing the hole after a cave, the tools stuck and the line was cut to send down new jars. It is in Center district, Calhoun County.

*(Continued on Page 117)*

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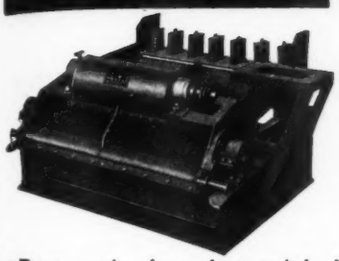

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# Among Gulf Coast Drilling Contractors

The latest addition to the ranks of Gulf Coast contractors is O. W. Dyer, of Shreveport, La., who has recently opened offices at Houston in the Second National Bank Building. Mr. Dyer is drilling two wells in the McCampbell field in Aransas County for the Atlantic Refining Co. and is moving in another outfit for the same company in the Dickinson field for No. 1 G. O. Anderson.

Contracts for two wells were received by Ben (Bud) Coyle from the Herton Oil Co. for No. 2 Barrilleaux and No. 5 Carter, which will be drilled in the Jeanrette field in St. Mary Parish, Coastal Louisiana.

Cron & Gracey are moving in a rig to the Ganado structure in Jackson County for Texas Co. No. 1 T. N. Mauritz in the Morris & Cummings Survey. One projected deep test has been spudded in Terrebonne Parish for Fohs Oil Co. No. 1 State, while at Placedo, Rockport, Manvel, St. Martinsville, Dickinson, Roanoke and South Houston, activities are being carried on for Continental Oil Co., Barnsdall Oil Co., Texas Co., Stanolind Oil & Gas Co. and Shell Petroleum Corp.

Harry L. Edwards is running 7-inch casing at the Dickinson field, preparatory to testing Coast Petroleum Co. No. 5 Maco Stewart, which is bottomed at 8,865 feet, while at the Cotton Lake field, Kirby Petroleum Co. No. 1 W. D. Haden is drilling below 3,500 feet.

Edwards Drilling Co. is moving in a rig to the Amelia field in Jefferson County to drill No. 1 LaGrange for Humble Oil & Refining Co., while in Wharton County, Sam Harrison No. 1 Byerly is nearing the contract depth of 6,500 feet.

Rowan Drilling Co. is drilling below 7,294 feet on Louisiana Crusader Oil Co. No. 1 Haas, located in Evangeline Parish, Coastal Louisiana, and is below 7,200 feet on Tide Water Oil Co. No. 2 Manhattan Fruit Co., situated on the Venice dome in Plaquemine Parish.

Nicklos Drilling Co. is running 7-inch casing preparatory to testing Pan American Producing Co. No. 2 Harang, in the new Valentine field in Lafourche Parish. Another rig is drilling No. 3 Harang and the rig used at Port Barre in drilling Pan American Production Co. No. 2 Cormier, recently abandoned, is being moved in for No. 4 Harang. Two other rotaries are active in the Tepetate field in Acadia Parish for the Continental Oil Co.

Loffland Brothers, who established the second deepest drilling record in the world at the Abbeville Prospect in Vermilion Parish by drilling Continental Oil Co. and Gulf Oil Corp. No. 1 O. C. Hebert to 12,216 feet, has plugged the hole back and is making production test of several oil sands indicated on an electrical coring test. At the Citrus Grove Prospect in Matagorda County for Continental Oil Co. on the No. 2 Robbins, a thick section of heaving shale has been conquered to a total depth of 8,908 feet and a string of 8⅝-inch casing is being cemented as a protection string.

Smith & McDannald have spudded Shell Petroleum Corp. No. 1-B Mauritz, in the Mauritz field, Jackson County, and 10 other active rotaries located at Long Lake, East Hayes, Dickinson, South Houston, Hastings, Jennings and Sorrento fields for the Stanolind Oil & Gas Co., Pan American Production Co., Shell Petroleum Corp., Tide Water Oil Co. and Pure Oil Co.

Of the 27 new locations announced for the Texas Gulf Coast the past week, only two were wildcats. These were made by the Texas Co. in Jackson County and J. F. Hutchinson in Wharton County. Fields receiving new activity included Raccoon Bend, Hastings, Lockridge, Heyser, Anahuac, Blue Ridge, Boling, Dickinson, Pierce Junction, Tomball, Amelia, Nome, Ace, Placedo and Humble.

S. T. Dudley announced plans completed for a wildcat in the Gonzales neighborhood. Ed Redding of Gonzales will deepen the test previously drilled to 2,600 feet, where formations were reported encouraging. The hole will be drilled to 4,600 feet, Dudley stated.

*Left to right: V. L. Chambliss and M. M. Barrow, and T. I. Petty, production superintendent for Harrison and Abercrombie in the Old Ocean field in Brazoria County where the first 10,000-foot production on the Texas Gulf Coast was opened by the completion of No. 3 Bernard River Land and Development Co.*

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# Texas and Louisiana Gulf

By
F. L. SINGLETON

# FIND NEW PRODUCING SANDS AND A SALT DOME PROSPECT

HOUSTON, Tex., Mar. 8.—Evidence of a new oil field being developed around the flank of the old Jefferson Island salt dome in Iberia Parish, Coastal Louisiana, and the discovery of two producing sands in the Old Ocean and Bay City fields in Brazoria and Matagorda counties, were the outstanding developments along the Gulf Coast the past week.

Jefferson Lake Oil Co. No. 414 State, on the northeast flank of the Jefferson Island salt dome, Iberia Parish, is being tested after coring 15 feet of oil sand to a total depth (corrected by an electrical coring test) of 6,945 feet. Casing was cemented on bottom and the hole is being washed after perforations were made from 6,928 feet to the total depth. The oil sand was found beneath a salt overhang topped at 990 feet and bottomed at 5,000 feet.

Jefferson Island is one of the oldest salt structures in the district, having been discovered in 1895, and until the past several months it has been mined for sulfur and salt. No. 414 State Lake Pigneur is the tenth test drilled for oil which began in 1924. The deepest test, No. 274 Lake Pigneur, was drilled to 8,655 feet and discovered several showings of oil and gas in sand from 8,447-68 feet, but was abandoned due to mechanical trouble.

Deeper drilling in the Gillis field, Calcasieu Parish, has no doubt been encouraged by the blowout of Union Sulphur Co. No. 12 Barbe from a depth of 9,101 feet. The gas caught fire and a crater was formed. The blowout occurred while a core was being pulled, and it is reported that at the time the well was blowing gas it was showing no oil. The well is in section 1-9s-8w, and is the deepest test drilled in this field, which is producing sands at 6,700- and 7,000-foot levels.

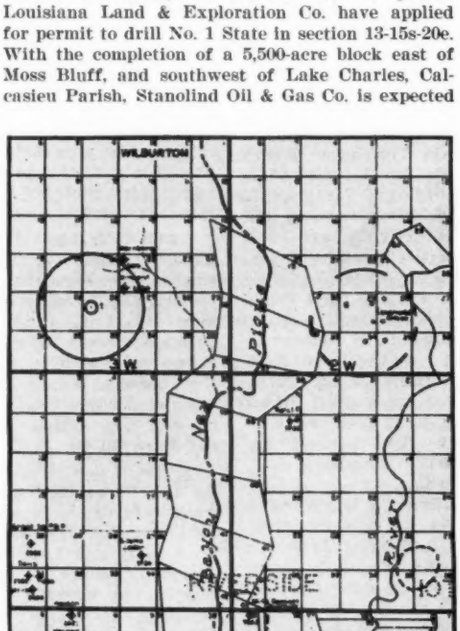
On the west flank of the old Jennings field, Acadia Parish, Superior Oil Producing Co. was preparing to make a production test in No. 1 Iowa-Jennings after logging over 100 feet of sand to a total depth of 6,489 feet. Seven-inch casing has been cemented on bottom, and it will be tested through perforated casing. It is southeast of three producers, recently completed by the company in section 41-9s-10w.

In the Valentine field, Lafourche Parish, Pan American Production Co. was running casing preparatory to testing No. 2 Harang, after sand, showing oil, was cored at 6,928-45 feet, the total depth. Seven-inch casing will be cemented at 6,927 feet. No. 2 Harang is the first well drilled since the discovery 660 feet to the southeast of it. Based on top of the sand it is practically level with the discovery well.

Continental Oil Co. and Gulf Oil Corp., which drilled their joint test, No. 1 O. C. Hebert, at the Abbeville Prospect in Vermillion Parish to 12,216 feet, have given up attempts to develop production at that depth, due to mechanical trouble, and are plugging back, preparatory to testing a series of possible oil sands at higher levels, indicated in an electrical coring test. The first test made through perforated casing at 10,368-76 feet resulted in no showing of oil, gas or salt water, and the hole is being plugged back.

### Four New Wildcat Projects

Coastal Louisiana drilling campaign gained four more wildcats the past week. In Cameron Parish, Magnolia Petroleum Co. staked No. 1 A. Dobbortine out of the NW cor. of SE NE section 9-15s-14. In Jefferson Davis Parish, Louisiana Crusader Oil Corp. has located No. 1 Langley northeast of the town of Fention, in section 36-7s-5w, on what is known as the Pine Island Prospect. The Conroe Trend, extending along the northern tier of parishes, gained one more test, and several more are proposed. In West Feliciana Parish, Cavalier Oil Co. No. 1 C. W. Mackie is located in section 59-3s-2w. In the lower part of district in St. Charles Parish, Amerada Petroleum Corp. and Louisiana Land & Exploration Co. have applied for permit to drill No. 1 State in section 13-15s-20e. With the completion of a 5,500-acre block east of Moss Bluff, and southwest of Lake Charles, Calcasieu Parish, Stanolind Oil & Gas Co. is expected




*Full circle shows location of Stanolind Oil & Gas Co. No. 1 Calcasieu National Bank, looked upon as a possible pool opener for the China Prospect, Jefferson Davis Parish. Broken circle is Tepetate field in Acadia Parish.—(W. W. Zingery, Maps, Houston)*

to announce location for a wildcat in the near future. The lease covers all sections from 1 to 18 and sections 23 and 26 in Township 11s-9w.

Among the active wildcats, several were holding attention. On the Mallard Bay Prospect, Cameron Parish, Pure Oil Co. No. 1 State, section 22-13s-3w, which has had trouble with a stuck drill stem at a total depth of 10,146 feet, tried to blow out and showed tremendous gas pressure after the drill stem was cut at 8,150 feet. In the same parish and located at Johnson Bayou, Magnolia Petroleum Co. No. 1 Gray Heris, the second test drilled, has been abandoned at 7,421 feet. In the Big Lake field, Union Sulphur Co. No. 1 J. O. Hebert cored sand showing oil at 5,867-69 feet, 6,435-39 feet, and 6,527-41 feet. Salt water sand was uncovered at 6,541-44 feet.

Shell Petroleum Corp.'s second well in the newly discovered Bayou Cocotriz Prospect, Terrebonne Parish, will be No. 1 Pelican, located 440 feet southwest along projection of west line of section 18, thence at right angles 425 feet southeast in section 35-17s-15e. The discovery well was completed last week at a depth of 9,483 feet and continues to flow around 900 bbls. per day through a quarter-inch choke.

### Texas Upper Gulf Coast

Harrison & Abercrombie's deep drilling program in the Old Ocean field in Brazoria County has resulted in the discovery of the first commercial production from the 1,000-foot horizon along the Texas Gulf Coast, which will no doubt encourage a continuation of the present deep drilling program. This production was developed by the completion of No. 3 Bernard River Land & Development Co., located 2,000 feet west of production that was completed flowing an estimated 15 bbls. of 50-gravity oil per hour under a working pressure of 3,750 pounds. The hole is bottomed at 10,427 feet and production was obtained from a 51-foot screen setting made in a sand section cored at 10,263-93 feet. The well continues to clean itself of wash water and the pressure at the end of the week was 3,900 pounds. No. 3 Bernard opens the third producing horizon from the Frio section and is located west and southwest of two wells producing at 8,600 and 9,963 feet.

### New Pay in Bay City

In the Bay City field, Matagorda County, Hamman Exploration Co. No. 1 J. H. Crocker, extended production 2,400 feet north and opened a new sand when it flowed at the rate of 650 bbls. of 37-gravity oil per day, on a production test made through perforations at 8,190-94 feet. The well is flowing through the drill stem and will be killed to run tubing and install a christmas tree. Bottomed at 9,545 feet the well was completed by setting a cement retainer at 8,200 feet after numerous production tests through perforated casing below that depth showed salt water. The action of the well indicates that this sand may be more prolific than that of the discovery well and is believed to correspond with the producing horizons of the Van Vleck located several miles to the northeast. The discovery well was completed through perforated casing at 9,361½-70 feet and is being worked over after it started flowing 100 per cent salt water.

Sun Oil Co. No. 1 H. Latuer, an interesting deep test on the south flank of the Clay Creek field, Washington County, is to be plugged back and tested, following several days work with an electrical coring outfit. The hole is bottomed at 8,306 feet and will be plugged back to the bottom of the 7-inch casing seat at 7,445 feet. One test will be made in 1 foot of sand at 7,435 feet and if this fails, other tests are to be made at 6,480-70, 5,260-50, 5,160-50, 5,140-35, 5,075-65, 5,015-05, 4,535-25 and from 4,515-50 feet. The hole is bottomed in salt, topped at 8,240 feet.

Texas Crusader Oil Co. No. 1 fee, discovery well of the Magnet field, Wharton County, failed to flow when tested through perforated casing in a sidetracked hole, bottomed at 5,556 feet, and a pumping unit is being rigged up. The test was made at 5,550-55 feet, and the fluid is said to be standing 500 feet below the surface. Sam Harrison and others No. 1 J. Byerly, a wildcat southeast of El Campo in the E.T.R.R. Survey is nearing the contract depth of 6,500 feet, and is reported to have shown nothing of importance on an electrical coring test. This county, which has taken the lead in wildcat activities, gained another by the announcement of J. F. Hutchins No. 1 J. J. Winsley, in the James Tumlinson Survey, now rigging up. To the northeast in Jackson County and near Ganado, Texas Co. is moving in a rig for

No. 1 T. N. Mauritz located in the Morris & Cummings Survey.

In the South Cotton Lake field, Chambers County, Salt Dome Oil Co. No. 1-B Lawrence, second completion for this area flowed 53 bbls. of 43-gravity oil per day on a potential test through a three-sixteenths inch choke, with tubing pressure 2,400 pounds and casing pressure 2,100 pounds. Location has been made by the same company for No. 1-C Lawrence, and it is being rigged up. Both wells are in the S. Barrows Survey.

Republic Production Co. and Houston Oil Co. No. 7 Brooks, an outpost test, 3,100 feet northeast of production of the Silsbee field, Hardin County, flowed 76 bbls. of pipe line oil in 24 hours through an 8-inch choke, with tubing pressure 2,075 pounds and casing pressure 2,100 pounds. Gravity of the oil is 52 degrees. Two other tests had reached the Upper Cockfield sand and were coring ahead. No. 6 Brooks cored sandy shale with an oil odor at 6,856-65 feet and a drill-stem test was to have been made. No. 8 Brooks cored oil sand at 6,808-15 feet and is coring ahead.

On the Citrus Grove Prospect, Matagorda County, Continental Oil Co. No. 2 Robbins is bottomed at 8,908 feet and a protection string of 8⅝-inch casing is being run to bottom. On the same prospect and north of Continental Oil Co.'s well, Thomas Driscoll is moving in a rig for No. 1 Fred S. Robbins, in the C. H. Vandeveer and Shepphard leagues.

## Kansas Fields

*(Continued from Page 95)*

ings of oil; Conglomerate, 4,460 feet; Mississippi, 4,485 feet; Viola lime, 4,835 feet.

### Trego County

Dawson & Tharpe No. 1 Wilson, C NE NE section 22-11-23w, Welch area, Trego County, topped anhydrite at 1,764 feet; Kansas City, 3,511 feet; Siliceous lime, 3,985-4,006 feet, total depth, had a hole full of water and was abandoned.

### Rooks County

I. W. Seigel and others No. 1 Westhusin, NE cor. section 14-9-17w, Rooks County, was an abandoned location.

### Other New Operations

Five new operations in Ellis County were reported, as follows: Lebow and others No. 1 Richmond, SW SW SE section 15-11-17w, location; British American Oil Producing Co. No. 5 Bemis, NE NW SW section 22-11-17w, location; Margay Oil Co. No. 1 Bemis C, NW NE SW section 22-11-17w, rotary rig; Lario Oil & Gas Co. No. 1 Walter B, NE SE SW section 2-12-18w, moving in material; same operator's No. 1 Walter C, NW SW SE section 2-12-18w, cellar.

In Ness County, Jones & Lane No. 1 Page Milling Co., SE SE NW section 36-18-26w, wildcat, was a cellar.

In Rush County, Ohio Oil Co. No. 2 Brack, SW cor. section 24-18-16w, was a location.

In Stafford County, Stanolind Oil & Gas Co. No. 1 Spangenberg, SW cor. section 29-22-11w, was a location; same company's No. 2 Heyen A, NE NE NW section 31-22-11w, was building rotary rig.

## West Texas Spacing

AUSTIN, Tex.—A series of special orders to govern the spacing of oil wells in a number of West Texas oil fields were issued by the Railroad Commission.

The Sayre, Keyes and Brown-Altman fields were consolidated, to be known as the Kermit field, and wells must be 660 feet apart and 330 feet from lease lines. The same rule was made applicable to the Sealey, Emperor, Halley, Scarborough, Estes, Harper, and North Ward fields.

In the North Cowden field, wells must be 880 feet apart, and 440 feet from lease lines. In South Cowden, wells are to be spaced 1,320 feet and 660 feet from the lease lines. In the Foster field, wells are to be 600 feet apart and 330 feet from lease lines. Wells in Goldsmith are to be 660 feet apart and 330 feet from lease lines. Keystone wells are to be 880 feet apart and 440 feet from lease lines.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# *Oklahoma Operations*

By
**DAL DALRYMPLE**

# EXTEND NORTH BETHEL; OIL SHOWS IN KIOWA WILDCAT

An extension of the North Bethel pool, Seminole County; probable opening of a new producing area in Kiowa County; starting of work at several new wildcat locations and the completion of another big producer in the Moore field, Cleveland County, were features of the week in Oklahoma oil fields.

J. E. Crosbie, Inc., and others No. 1 Miller, SW SE SE section 25-10-7, will extend the North Bethel pool one-half mile east if completed as a producer. It had Cromwell sand at 3,654-64 feet, and on drill-stem test indicated large production. It flowed 20 bbls. of oil in five minutes.

In Kiowa County, Principle Oil Co. No. 1 Schierloh, SE NE SE section 28-7-20w, wildcat, had oil showing at 1,016-18 feet, total depth, and was being tested. Operators mudded off 11,500,000 feet of gas, found at total depth, but encountered a bridge at about 1,000 feet when lowering casing. When bridge was drilled through, more gas appeared and oil rose between 400 and 500 feet in the hole. The crew was reported to have bailed some high-gravity oil before shutting down for orders.

One of the interesting new wildcats was the Harry Hollenback and Hugh Hodges Drilling Co. No. 1 Norman, C NW NE section 17-9n-2w, north of Norman in Cleveland County and southwest of the Moore field. It is on a seismograph high. It is to be a Wilcox sand test. Several major companies have leases in the area and have contributed bottom-hole money.

### Pontotoc County

Eight wells were completed in the Fitts field and one in the Allen area, Pontotoc County. J. E. Crosbie, Inc., No. 2-B Burris, CWL SE section 22-2n-7, topped Hunton lime at 3,574 feet; total depth 3,709 feet in lime. It was acidized with 10,000 gallons, flowed 94 bbls. of oil in the first 30 minutes and made potential of 3,016 bbls.

Amerada Petroleum Corp. No. 5 Smith, SE SW NW section 28-2-7, flowed 496 bbls. of oil in 1 hour and 30 minutes after treating with 12,000 gallons of acid and made potential of 3,402 bbls. Top of Hunton lime was 3,264 feet; Sylvan shale 3,525 feet; total depth 3,535 feet. Same operators' No. 6 Woolley, SE NE SE section 21-2-7, had Viola lime at 4,075 feet; Bromide 4,335 feet; total depth 4,374 feet. It was acidized with 15,000 gallons and made potential of 1,964 bbls. of oil, after flowing 549 bbls. through casing and tubing in one and one-half hours. Sinclair Prairie Oil Co. No. 16 Woolley B, NE NE SW section 22-2-7, topped Hunton lime at 3,632 feet and was bottomed at 3,775 feet. It flowed 564 bbls. of oil in two hours, gross, and made potential of 3,251 bbls. after treating with 10,000 gallons of acid.

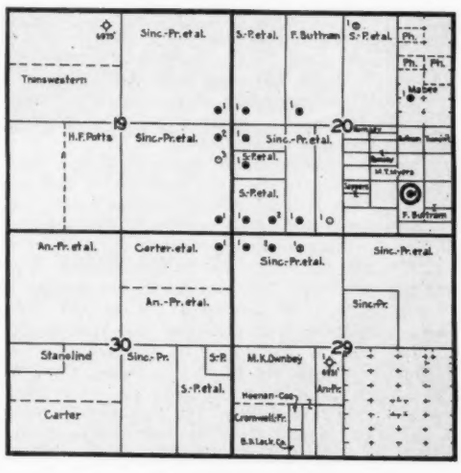
Magnolia Petroleum Co. No. 4 Smith, SE SE NW section 28-2-7, was acidized with 10,000 gallons, flowed 566 bbls. of oil gross in one hour and made potential of 3,702 bbls. It topped Hunton lime at 3,231 feet; Sylvan shale 3,487 feet; total depth 3,489 feet. Same company's No. 15 Simpson, SE NE NE section 29-2-7, topped Hunton lime at 3,399 feet; Sylvan shale 3,673 feet; total depth 3,676 feet. After acidizing with 10,000 gallons it flowed 339 bbls. of oil gross in one hour, making potential of 1,286 bbls. Magnolia No. 1 Morin, SE NE SE section 20-2-7, topped Viola lime at 4,133 feet and was bottomed at 4,384 feet. It was plugged back to 4,368 feet, acidized with 10,000 gallons, flowed 359 bbls. of oil gross in two and one-half hours, making potential of 964 bbls. of oil, with 18 per cent water. Same company's No. 2 Morin, SW NE SE section 20-2-7, had Viola lime at 4,175 feet; total depth 4,350 feet. It was treated with 10,000 gallons of acid, flowed 290 bbls. of oil gross in three hours and made potential of 890 bbls.

### An Allen Well

Great Lakes Oil Co. No. 6 Gilmore, SE SW NE section 29-5-8, Allen area, had sand at 865 feet; was bottomed at 995 feet; plugged back to 885 feet; shot, and pumped 7 bbls. of oil in 24 hours.

New work in Pontotoc County: Amerada Petroleum Corp. No. 11 Woolley, SE NE SE section 21-2-7, rigging up rotary; Bishop Oil Co. No. 1-A Simpson, NW SW NW section 28-2-7, cellar and pits; same company's No. 4-A Simpson, NE NW NW section 28-2-7, moving in rig; J. E. Crosbie, Inc., No. 4-B Harden, SE SW NE section 30-2-7, cellar and pits; Sinclair Prairie Oil Co. No. 3 Snow, NE SW SW section 28-5-8, location.

H. L. Blackstock No. 3 Lewis, SW SE SE section 19-2-7, was bottomed at 4,415 feet, acidized with 10,000 gallons and flowed 360 bbls. of oil in 1 hour, gross. It was reacidized with 10,000 gallons and was waiting on results. Same operator's No. 4-A Moody, SE SW SW section 22-2-7, flowed 360 bbls. of oil in the first hour




***The Britton pool, Oklahoma County, was extended to the east at Frank Buttram and others No. 1 Zielny, NW SE SE section 20-13-3w.—(Mid-Continent Map Co., Tulsa)***

after acidizing with 10,000 gallons. It topped Hunton lime at 3,466 feet; Sylvan shale 3,840 feet; total depth 3,841 feet. J. Paul Getty No. 2 Masters, NE NE SW section 23-2-7, acidized with 3,000 gallons and flowed 360 bbls. of oil net through tubing in 12 hours; reacidized with 7,000 gallons and flowed 437 bbls. gross in one hour through casing, with no water. Total depth was 3,855 feet. Skelly Oil Co. No. 10 Metropolitan Life, SE NW SW section 23-2-7, flowed 241 bbls. of oil net in one and one-half hours after treating with 10,000 gallons of acid. It topped Hunton lime at 3,625 feet; Sylvan shale 4,003 feet; total depth 4,015 feet. Phillips Petroleum Co. No. 4 Bates, NW NE NW section 26-2-7, was bottomed at 4,300 feet and flowed 340 bbls. of oil gross in one and one-half hours after acidizing with 3,000 gallons. It was reacidized and flowed 475 bbls. of oil gross in one hour and 202 bbls. the second hour, net.

### Estimated Daily Production

Estimated daily average production of Oklahoma for the week ending March 6, and for the preceding week, was as follows:

| | Barrels | |
|---|---|---|
| | Mar. 6 | Feb. 27 |
| Allen | 6,700 | 6,550 |
| Burbank | 7,350 | 7,750 |
| South Burbank | 16,000 | 15,750 |
| Balance Osage | 21,000 | 22,000 |
| Blackwell district | 4,975 | 4,950 |
| Bristow-Slick | 7,925 | 8,000 |
| Chandler | 3,625 | 3,800 |
| Crescent | 12,700 | 9,500 |
| Cromwell | 3,250 | 3,375 |
| Cushing-Shamrock | 10,375 | 10,700 |
| Duncan district | 3,775 | 3,925 |
| Edmond | 15,625 | 15,975 |
| Fish | 7,000 | 6,850 |
| Fitts | 76,125 | 90,175 |
| Graham | 4,675 | 4,775 |
| Gray | 1,425 | 1,450 |
| Healdton | 9,675 | 9,750 |
| Hewitt | 4,250 | 4,375 |
| Holdenville | 925 | 900 |
| Keokuk | 8,375 | 9,250 |
| Konawa | 1,700 | 1,725 |
| Lucien | 13,025 | 12,950 |
| Marshall-Lovell | 800 | 850 |
| Oklahoma City | 131,875 | 140,050 |
| Olympic | 14,675 | 14,725 |
| Papoose | 950 | 1,000 |
| Polo | 1,750 | 1,700 |
| Sasakwa and townsite | 3,050 | 2,900 |
| Sholem-Alechem | 3,150 | 3,325 |
| Seminole: | | |
| Bowlegs | 11,575 | 11,650 |
| Carr City | 5,775 | 6,175 |
| Earlsboro | 5,975 | 6,075 |
| South Earlsboro | 725 | 750 |
| East Earlsboro | 7,875 | 7,975 |
| Little River | 11,400 | 11,175 |
| East Little River | 1,150 | 1,200 |
| Maud | 825 | 850 |
| Mission | 2,250 | 2,250 |
| Seminole | 10,125 | 10,250 |
| East Seminole | 3,675 | 3,750 |
| Searight | 5,050 | 5,250 |
| Total Seminole | 66,400 | 67,350 |
| St. Louis-Pearson | 21,775 | 21,975 |
| Tatums | 4,225 | 4,350 |
| Tonkawa-Garber-Thomas | 6,500 | 5,800 |
| Wewoka | 3,750 | 3,650 |
| Yale-Jennings | 4,025 | 4,100 |
| Other pools | 74,725 | 76,750 |
| Total Oklahoma | 578,125 | 603,000 |

### Oklahoma County

The producing area of the Britton pool, Oklahoma County, was extended eastward to within one-fourth mile of Britton townsite with the official completion of Frank Buttram and others No. 1 Zielny, NW SE SE section 20-13-3w. It topped Simpson dense at 6,627 feet and was bottomed at 6,738 feet. After shooting, acidizing and reacidizing, it flowed 899 bbls. of oil in four hours and made potential of 5,394 bbls. Gas averaged 7,547,000 feet. Tubing pressure was 700 pounds.

Stanolind Oil & Gas Co. and Amerada Petroleum Corp. No. 1 Bierschenk, NE cor. section 1-13-4w, at the southwest extremity of the Edmond field, flowed 84 bbls. of oil in four hours and made potential of 488 bbls. Before taking potential test, it flowed 733 bbls. of oil net in 21½ hours after acidizing with 10,000 gallons. Top of Simpson zone was 6,515 feet; total depth 6,611 feet.

Ohio Oil Co. No. 3 McMillan, SW NW SW section 31-14-3w, topped Simpson dense at 6,499 feet; first Wilcox sand 6,510 feet; total depth 6,640 feet. It was acidized with 3,000 gallons and flowed 242 bbls. of oil net, by heads, in 24 hours. Later, on potential test, it flowed 125 bbls. in four hours and made potential of 748 bbls. Gas gauged 3,104,000 feet.

Four wells were completed in the Oklahoma City field. Barnsdall Oil Co. No. 5 Edwards, SE cor. section 15-12-3w, topped second Wilcox sand

at 6,410 feet; had first oil at 6,428 feet and was bottomed at 6,469 feet. It made potential of 754 bbls. of oil on gas-lift. Same operator's No. 5 Guthrie, NW SW SE section 15-12-3w, made potential of 567 bbls. of oil on gas-lift after acid treatment. It topped Simpson pay at 6,353 feet and was bottomed at 6,437 feet.

Southwest Petroleum Co. No. 1 Maywood, NE SW SE section 27-12-3w, topped second Wilcox sand at 6,356 feet; stopped at 6,518 feet, total depth, and made potential of 1,589 bbls. of oil on gas-lift.

H. H. Wegener No. 1 University, SW NE SE section 27-12-3w, flowed 101 bbls. of oil in two hours and made potential of 1,214 bbls. on gas-lift. Production was from second Wilcox sand topped at 6,355 feet; total depth 6,477 feet.

Only new work reported in Oklahoma County was at Anderson & Kerr No. 1 Minnis, NW SE NE NE section 34-12-3w, rigging up rotary.

Ohio Oil Co. No. 1 Keefer, Account 2, NW NE NW section 5-13-3w, flowed 133 bbls. of oil on gas-lift, with 82 bbls. of water, after treating with 5,000 gallons of acid. It was bottomed at 6,755 feet and plugged back to 6,645 feet, but was not completed. Magnolia Petroleum Co. No. 1 School Land, NE cor. section 36-14-4w, flowed 450 bbls. of oil through tubing in 24 hours after acidizing with 5,000 gallons and was shut in for potential. It cut 12 per cent water. Total depth was 6,706 feet; plugged back to 6,585 feet. Texas Co. No. 1 School Land, SE SE NE section 35-14-4w, acidized with 10,000 gallons and flowed 370 bbls. of oil in 24 hours, with 22 per cent salt water; later, flowed 365 bbls. of oil in 24 hours, with 11 per cent salt water, and on the following day flowed 310 bbls. of oil in 17 hours, with 9 per cent water.

### Okfuskee County

Seven wells were completed in the Olympic area, Okfuskee County. Ark Royalty Co. No. 2 Parsons, SW SW NE section 18-10-9, topped Senora sand at 1,848 feet; total depth 1,900 feet, and pumped 192 bbls. of oil in 24 hours. Rogers Oil & Gas Co. and Ark Royalty Co. No. 2 Yarbrough, NW NE NE section 18-10-9, was shot with 60 quarts and pumped 96 bbls. of oil in 24 hours. It topped Senora sand at 1,877 feet; total depth 1,896 feet.

Sinclair Prairie Oil Co. No. 1 Schultz, SE NE NW section 18-10-9, had Senora sand at 1,842 feet, was bottomed at 1,876 feet, shot and flowed 70 bbls. of oil in nine hours; later, it pumped 75 bbls. of oil and 14 bbls. of water in 24 hours.

Manahan Oil Co. No. 1 Bunner A, SE cor. section 24-10-8, flowed 80 bbls. of oil in 24 hours after a shot. It topped Senora sand at 1,837 feet; total depth 1,850 feet.

Stanolind Oil & Gas Co. No. 3 Bunner, NE SE NE section 25-10-8, had Senora sand at 1,781 feet; total depth 1,809 feet; shot and flowed 691 bbls. of oil in 18 hours through casing; later, flowed 534 bbls. in 24 hours through tubing. Same company's No. 4 Bunner, SE NE NE section 25-10-8, flowed 492 bbls. of oil in 24 hours through tubing and was completed at 1,841 feet, total depth. Top of Senora sand was 1,817 feet.

J. A. Chapman and E. B. McFarlin No. 4 Williams, NW cor. section 30-10-9, topped Senora sand at 1,766 feet; was bottomed at 1,799 feet; shot and flowed 266 bbls. of oil through tubing in 24 hours.

Burke-Greis Oil Co. No. 2 Scott, C SE NW section 20-10-10, an old well, was deepened from 2,943 feet to 3,222 feet, total depth; shot, produced 12,000,000 feet of gas daily and was recompleted. It topped Wapanucka at 3,167 feet; Cromwell sand 3,176 feet.

The following new work in Okfuskee County was reported: Haynes Drilling Co. No. 1 Richardson, SW cor. section 12-10-8, an old well being deepened, drilling at 1,490 feet; Manahan Oil Co. No. 3 Bunner A, SE NE SE section 24-10-8, rig; Blackwell Oil & Gas Co. and Phillips Petroleum Co. No. 4 Lehmer, SW SW NW section 17-10-9, rigging up rotary; same operators' No. 1 Lehmer B, NE SW NW section 18-10-9, total depth 1,855 feet, running casing; Ark Royalty Co. No. 8 Fisher, NE NE SE section 18-10-9, set 10-inch casing at 40 feet, waiting on cement; Sinclair Prairie Oil Co. No. 3 Schultz, NE NE NW section 18-10-9, rig; same company's No. 4 Palmer, SW NE NW section 19-10-9, location.

### Seminole County

Amerada Petroleum Corp. and others No. 2 Klabzuba, NW SW SE section 35-11-5, North Earlsboro area, Seminole County, topped Wilcox sand at 4,626 feet; total depth 4,645 feet; swabbed 327 bbls. of oil in eight hours and later pumped 412 bbls. of oil in 13 hours.

Dave Malarnee and others No. 1 Huddleston, NW NE NW section 32-7-6, Little River area, was completed at 2,968 feet, total depth. It swabbed as high as 135 bbls. of oil in 24 hours, and on completion test pumped 95 bbls. in 24 hours.

Magnolia Petroleum Co. No. 3 fee, NE SW SW section 9-9-7, East Seminole district, topped Cromwell sand at 3,462 feet; total depth 3,490 feet. It swabbed 50 bbls. of oil in 24 hours; was shot, and flowed 75 bbls. of oil through tubing in 24 hours.

In the East Konawa area, W. A. Delaney No. 1 Bowles, SW SE NW section 10-6-6, had a showing of water at 2,595 feet, total depth; plugged back to 2,560 feet and was dry and abandoned. Vierson and others No. 7 Jones A, NE NW NW section 11-6-6, an old well, was deepened from 2,405 feet to 2,430 feet; plugged back to 2,407 feet; shot and reshot, swabbed 7½ bbls. of oil in 24 hours and was recompleted.

Three new operations in Seminole County were reported. J. E. Hall and associates No. 1 White, SE NW SE section 30-6-8, wildcat south of Sasakwa pool and northeast of Sasakwa townsite, was drilling at 380 feet. Gulf Oil Corp. No. 2 Myrtle, SW SW SE section 26-11-6, Keokuk area, had rig on ground. Winona-Jarvis-Holmes No. 3 Myers, NE SW NE section 31-7-8, an old well, was plugged back from 4,216 feet, old total depth, to 3,190 feet and was coring in Wapanucka sand.

Sinclair Prairie Oil Co. No. 7 Hyde, NW SW NW section 2-8-5, was bottomed at 4,049 feet; acidized with 2,000 gallons and swabbed 16 bbls. of oil in two hours. It had 1,000 feet of oil in the hole and was cleaning out. Pure Oil Co. No. 1-A Townsend, SW SW NE section 12-8-5, topped second Wilcox sand at 4,371 feet; total depth 4,382 feet, with 1,000 feet of water in the hole; plugged back to 4,037 feet; shot and swabbed 65 bbls. of oil net in nine hours. Texas Co. No. 3 Grisso, NE NW NW section 16-9-7, topped Cromwell sand at 3,435 feet, was bottomed at 3,457 feet, and flowed 120 bbls. of oil in nine hours.

### Osage County

Completions in Osage County included three oil wells, one abandonment and three pressure wells. Lewis Production Co. No. 4 Osage, SE cor. section 28-24-7, Naval Reserve pool, topped Bartlesville sand at 2,545 feet; total depth 2,598 feet in sand; shot and flowed 222 bbls. of oil in the first 24 hours. Same operator's No. 12 Wilson, NE SE NE section 28-24-7, flowed 84 bbls. of oil in the first 12 hours after shooting. It topped Bartlesville sand at 2,653 feet and was bottomed at 2,680 feet. It was flowing at the rate of 135 bbls. of oil a day when completed.

Barnsdall Oil Co. No. 5 Osage, SW SE NE section 35-25-11, topped Bartlesville sand at 1,664 feet; oil sand 1,714 feet; total depth 1,728 feet. It was shot and swabbed 17 bbls. of oil in 24 hours.

Elm Oil Co. No. 7 Osage, NE SE NW section 17-20-12, had Bartlesville sand at 1,472-84 feet, total depth, failed to make a producer by shooting and was dry and abandoned.

In the Avant district, Barnsdall Oil Co. No. 14 Osage, NW SW SW section 17-23-12, was completed as a repressure well at 1,586 feet, total depth. Wolverine Oil Co. and others completed No. 17 North Avant Unit, NE NE SE section 31-24-12, as a repressure well at 1,772 feet, total depth, in shale. It topped Bartlesville zone at 1,639 feet. Same operators' No. 43 North Avant Unit, SW SE NE section 31-24-12, topped Bartlesville zone at 1,643 feet, but was completed as a repressure well at 1,781 feet, total depth.

New work in Osage County: Ohio Osage Oil Co. No. 7 Osage, NE SE SW section 36-22-8, location; Midco Oil Corp. No. 1-A Osage, SW cor. section 17-22-10, an old well preparing to deepen; Indian Territory Illuminating Oil Co. No. 3 Osage, SE SW NE section 36-23-10, an old well, preparing to deepen; Barnsdall Oil Co. No. 15 Osage, NE NW SW section 17-23-12, location; Lewis Production Co. and others No. 6 Osage, SW SE SE section 28-24-7, location; Wolverine Oil Co. and others No. 18 North Avant Unit, NE NW SE section 31-24-12, Lot 68, cellar; same operators' No. 44 North Avant Unit, SW SW NW section 32-24-12, Lot 67, drilling at 900 feet; Coralena Oil Co. No. 7 Swanson, NE SW NW section 21-25-6, location.

### Noble County

The deep producing area in the Billings pool, Noble County, was extended to the southeast at Tide Water Associated Oil Co. No. 2 Hackett, NW NW SE section 21-23-2w. It topped Wilcox sand at 4,321 feet and was bottomed at 4,337 feet. It flowed 435 bbls. of oil through tubing in 12 hours. Later, it flowed 599 bbls. of oil in six hours on potential test and made potential of 2,260 bbls. Gas averaged 1,800,000 feet. It is one location west of same company's No. 1 Hackett, recently completed as a large producer.

Tide Water Associated Oil Co. No. 1 Aucutt, NE NE SW section 21-23-2w, west offset to No. 2 Hackett, is a location.

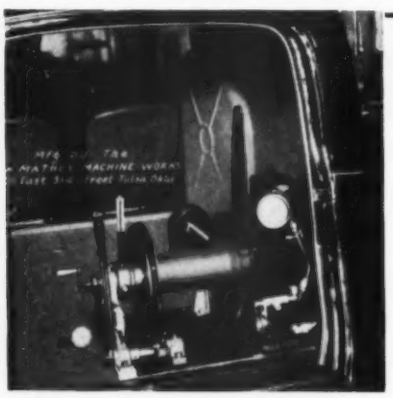
Lincoln Oil Co. and others No. 1-A Neil, NE cor. section 15-23-2w, is location for a deep wildcat northeast of the Billings pool. Midco Oil Corp. has half interest in the test and retains the shallow rights. Others interested in the deep wildcat are Tide Water Associated Oil Co., Phillips Petroleum Co. and Anderson & Kerr. Union Drilling Co. has the contract.

### Cleveland County

Sinclair Prairie Oil Co. and others completed another gusher well in the Moore field, Cleveland County, at No. 2 Peaches B, NE NE NW section 21-10-2w. It topped second Wilcox sand at 7,255 feet; total depth 7,281 feet. It flowed 1,907 bbls. of oil through tubing in 24 hours, and potential was set at 24,610 bbls. by agreement of operators.

### Garvin County

Another producer was completed in the Garvin County sector of the Tussy pool at Cox & Hamon

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No. 4 Perry, NE SE SW section 32-1n-3w. It topped lime at 1,530 feet; oil sand 2,300 feet; broken sand and shale 2,306 feet; oil sand 2,555 feet; broken oil sand 2,660 feet, and was bottomed at 2,770 feet. It pumped 11 bbls. of oil the first 24 hours and 181 bbls. the next 24 hours.

Carter Oil Co. No. 1 Parton, NW SE NW section 33-1n-3w, was location for a new test in the Tussy area.

### Creek County

A. B. Ice No. 1-B Baker, CSL SE NE section 14-17-10, Kellyville area, Creek County, had Red Fork sand at 1,890 feet; total depth 1,951 feet, and was completed as an 8-bbl. pumper.

Fred B. Kroger No. 1 Bruce, SE NE SE section 4-17-9, topped Prue sand at 2,030 feet; total depth 2,052 feet; was shot and pumped 30 bbls. of oil a day.

Royal Oil & Gas Corp. No. 1-A Berryhill, NW NW SE section 18-17-11, had sand at 2,467-74 feet, total depth, and pumped 10 bbls. of oil a day.

Sinclair Prairie Oil Co. No. 2 Slick, NW SW SW section 3-17-7, an old well in the Drumright district, was deepened from 2,720 feet to 2,739 feet, total depth, was shot, pumped 75 bbls. of oil in 24 hours and was recompleted.

J. E. Crosbie, Inc., No. 1 McKellop, SE SE SW section 20-18-9, had a hole full of water in Wilcox sand at 3,215-41 feet, total depth, and was dry and abandoned. C. L. Jordan No. 1-A Harjo, C W half E half SW section 13-17-8, had a hole full of water in lower Layton at 1,322-40 feet, total depth, and was dry and abandoned. Acid Oil Co. No. 3-A Deere, C NW section 7-17-7, was an abandoned location.

First reports of new work in Creek County were as follows: Klingensmith No. 4 Gilcrease, C E half SE SE section 33-17-12, rigging up standard tools; C. L. Jordan No. 2 Harjo, SW NE SW section 13-17-8, an old well, moving in machine to deepen to Bartlesville sand; Curtis Oil Co. No. 2-A Larimore, NW SE NW section 10-19-9, rigging up machine; same company's No. 1-A Coonrod, NW NE SW section 10-19-9, cellar and pits; Elliott Brothers No. 1 Ross, NW cor. section 20-19-9, an old well, moving in machine to deepen; W. C. McBride, Inc., and others No. 26 Starr, SW SE SE section 8-18-7, an old well, deepened from 2,549 feet to 2,645 feet, swabbed an estimated 50 bbls. of oil per day and preparing to deepen; Sinclair Prairie Oil Co. No. 32 Dacon, SW NE SE section 16-17-7, an old well, pulling 5-inch casing, to deepen.

### Okmulgee County

Eagle Picher Lead & Zinc Co. No. 2-A Bullett, SE SW NE section 27-12-12, Okmulgee County, had Upper Dutcher sand at 2,365-2,403 feet, total depth, and produced 3,000,000 feet of gas, completed.

Aggas Drilling Co. No. 7 Alexander, NW SE SE SW section 16-15-14, reported for the first time, was drilling at 170 feet.

### Tulsa County

Several tests are drilling in the Tulsa Airport pool, an area that was opened to production more than a year ago but which did not become active until a fair producer was completed there by E. H. Gubser and others recently. This little pool, located on the northeast extremity of the city of Tulsa, apparently has been defined at the north end, but operators were hopeful of extending the producing zone in other directions.

Alva J. Niles well at the north end of the pool had Mississippi lime at 1,354-83 feet, total depth, and was abandoned.

Galbraith, Byers & Co. have completed a 22-bbl. well at their No. 1 well in SW SE NW section 35-20-13, and a 4-bbl. a day pumper at their No. 2 well, 260 feet due west of No. 1.

L. V. Crater's well in Lot 1, Block 2, Starr Acres Subdivision, in section 35-20-13, was averaging 50 bbls. a day of 41-gravity oil, and after cleaning out operators expected it to produce 80 to 90 bbls. a day.

G. C. Culter No. 2 Daugherty is producing at the rate of 80 bbls. daily, and with tubing and packer set operators believe production will be increased to 100 bbls. a day or better. It is the best producer in the pool to date. The No. 3 Daugherty was to be started soon.

Other wells are being drilled in the area by E.

*(Continued on Page 108)*


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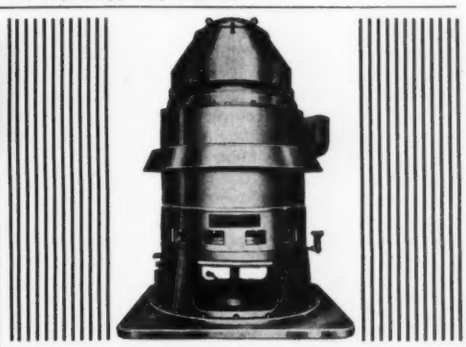

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# Rocky Mountain Area

By
T. R. INGRAM

# EASTERN COLORADO FAILURE; POOL OPENED IN NEW MEXICO

DENVER, Colo., Mar. 8.—The Gulf Oil Corp. No. 1 Risser-Union Pacific, Kiowa County, eastern Colorado, is shut down for orders in schist at 6,175 feet. Operators generally agree that its failure means only a delay in finding oil in that area. The Continental Oil Co. is expected to drill 36 miles southeast of the Gulf well this spring. The Mountain Fuel Supply Co. No. 1 Stewart on the Powder Wash structure, Moffat County, flowed 77 bbls. in 30 minutes.

The Stock Oil Co. No. 1 Allen, on the Garland dome, Wyoming, out of control for more than a year, was at last plugged and abandoned. The General Petroleum Corp.'s deep test on the Overland dome was abandoned. Carter Oil Co. is resuming drilling in Wyoming with a location for deep test on Billy Creek. Three new operations were reported on the Spindletop dome in Natrona County. Dewey well of the Conway Oil Corp. was abandoned.

Operations are resuming in parts of Montana with nine active wells in Cut Bank, including two new locations.

The Cane Creek dome in the Colorado River Basin in Utah is to have another test.

## NEW MEXICO

Clint Murchison and others No. 1 State, C NE SW section 16-17-31, opened a new producing area on the Artesia trend in Eddy County, southeast New Mexico. It is a wildcat 2 miles east of the Danciger pool. It topped pay at 3,560 feet; found salt water at 3,644 feet, total depth, and plugged back to 3,636 feet to complete. Natural production was estimated at 25 bbls. of oil daily. It was acidized and pumped 138 bbls. of oil daily.

Anderson-Prichard Oil Corp. completed a good producer in the Monument area, Lea County, at No. 8 Britt, C SW SE section 7-20-37. It flowed 320 bbls. of oil in two hours through tubing, with 4,849,000 feet of gas. Pay was topped at 3,809 feet; total depth, 3,865 feet.

Other Lea County completions were as follows: Amerada Petroleum Corp. No. 3 Larsen, C NW NE section 32-19-37; pay, 3,802 feet; total depth, 3,910 feet; acidized; flowed 578 bbls. of oil in nine hours through choke on tubing. Same company's No. 4 Larsen, C SW NE section 32-19-37; pay, 3,802 feet; total depth, 3,902 feet; acidized; flowed 359 bbls. of oil in 15 hours through choke on tubing.

Anderson-Prichard Oil Corp. No. 1 Carlson, C NW SW section 21-25-37; pay, 2,875 feet; total depth, 2,950 feet; shot and flowed 69 bbls. of oil a day through tubing.

Bert Fields No. 1 Turner-State, SW SW NE section 32-20-37; topped pay at 3,785 feet; total depth, 3,875 feet; shot and acidized; flowed 120 bbls. of oil a day through tubing.

Gulf Oil Corp. No. 2-A Kutter, C NW SE section 28-19-37; pay, 3,866 feet; total depth, 4,002 feet; shot and acidized; flowed 17 bbls. of oil in six hours, cutting 10 per cent basic sediment and water. Same operator's No. 4 Whitmire, C SE NE section 8-20-37; pay, 3,822 feet; total depth, 3,881 feet; flowed 277 bbls. of oil naturally through tubing in five and one-half hours. Same company's No. 1-B Weir, C NW SE section 26-19-36; pay, 3,880 feet; total depth, 4,995 feet; acidized; flowed 34 bbls. of oil in six hours, with 3,147,000 feet of gas.

Humble Oil & Refining Co. No. 1-F State, C NE SW section 17-20-37; pay, 3,773 feet; total depth, 3,860 feet; flowed 31 bbls. of oil naturally, through tubing.

Ohio Oil Co. No. 1 Laughlin, C SW NW section 9-20-37; pay, 3,867 feet; total depth, 3,883 feet; flowed 110 bbls. of oil an hour, naturally, with 2,000 feet of gas.

Texas Co. No. 3 Rector, NE NW SE section 30-21-36; pay, 3,850 feet; total depth, 3,950 feet; flowed 446 bbls. of oil naturally in five hours, with 2,000,000 feet of gas. Same company's No. 2-J State, C SE SW section 24-19-36; pay, 4,000 feet; total depth, 4,043 feet; acidized; flowed 225 bbls. of oil in six hours, with 2,203,000 feet of gas.

Shell Petroleum Corp. No. 1-M State, C SE NE section 1-21-36; pay, 3,747 feet; total depth, 3,847 feet; flowed 182 bbls. of oil naturally in four hours. Tide Water Associated Oil Co. No. 1-B Coates, C NW NW section 21-25-37; pay, 2,895 feet; total depth, 3,077 feet; plugged back to 3,032 feet; flowed 32 bbls. of oil daily. Continental Oil Co. No. 1 Britt B, C NE NW section 8-20-37; pay, 3,810 feet; total depth, 3,893 feet; flowed 44 bbls. of oil per hour, naturally.

### Monument Area

Skelly Oil Co. No. 2 State F, C SW SE sec. 17-20-37. Drlg. 3,215 ft.
Amerada Pet. Corp. No. 2 Anderson, C SE SW sec. 8-20-37. Drlg. 3,736 ft.
Amerada Pet. Corp. No. 2 Phillips, C NE SW sec. 33-19-37. T.D. 3,910 ft.; acidized; swabbing.
Amerada Pet. Corp. No. 2-W State, C SW NE sec. 30-20-37. T.D. 3,888 ft.; reacidized; swabbing.
Gulf Oil Corp. No. 3 Sunshine, C NE SW sec. 30-20-37. T.D. 3,837 ft.; acidized; flowed 3 B.O.P.H.
Oil Well Drlg. Co. No. 2 Wood-State, NW sec. 16-20-37. Drlg. 675 ft.
Tide Water Oil Co. No. 2-I State, C NE SW sec. 16-20-37. Drlg. 3,658 ft.
Continental Oil Co. No. 3-A-17 State, C NW SW sec. 17-19-37. T.D. 3,860 ft.; set csg.
Anderson-Prichard Oil Co. No. 7 Britt, SE NW SE sec. 7-20-37. Drlg. 3,315 ft.
Tide Water Oil Co. No. 2 State I, C NE SW sec. 16-20-37. Cellar and pits.
Amerada Pet. Corp. No. 3 Byrd, sec. 3-12-20. Drlg. 3,253 ft.
General Crude Oil Co. No. 1-G State, sec. 16-20-37. Drlg. 3,684 ft.
Gulf Oil Corp. No. 3 Anderson, sec. 8-20-37. Drlg. 3,245 ft.
Magnolia Pet. Co. No. 2 Cary, sec. 21-22-37. Drlg. 2,450 ft.
Texas Co. No. 1 Cook, SW NE NE sec. 32-19-37. Drlg. 2,772 ft.
Continental Oil Co. No. 2 Britt B, sec. 18-20-37. T.D. 3,745 ft.; drlg. plug.
Continental Oil Co. No. 3 Britt B, sec. 18-20-37. Drlg. 3,540 ft.
Phillips Pet. Co. No. 1 Mexico, NE cor. sec. 18-20-37. T.D. 1,180 ft.; W.O.C.
Continental Oil Co. No. 11 Sanderson A, C SE SE sec. 11-20-36. T.D. 1,094 ft.; set csg.
Amerada Pet. Corp. No. 4 Byrd, C NE NW sec. 12-20-36. Drlg. 3,760 ft.
Gulf Oil Corp. No. 2 Hatchett, C SW NW sec. 33-19-37. T.D. 1,306 ft.; set csg.
Gulf Oil Corp. No. 3 Whitmore, C SE NW sec. 8-20-37. T.D. 2,331 ft.; set 7⅝-in. csg. at 2,327 ft.; W.O.C.
Skelly Oil Co. No. 2 Van Etten, C SW SW sec. 9-20-37. Drlg. 2,517 ft.
Skelly Oil Co. No. 3 Van Etten, C SE SW sec. 9-20-37. T.D. 1,138 ft.; set 9⅝-in. csg.; W.O.C.
Gulf Oil Corp. No. 3 Graham-State F, C NW SE sec. 36-19-36. T.D. 2,350 ft.; set csg.
Amerada Pet. Corp. No. 6 Andrews, C SW SW sec. 12-20-36. Drlg. 1,392 ft.
Gulf Oil Corp. No. 1 Orcutt C, C SW SE sec. 36-20-36. Drlg. 2,555 ft.
Barnsdall Oil Corp. No. 7 Cooper, C NW SW sec. 7-20-37. Drlg. 3,635 ft.
Gulf Oil Corp. No. 4 Anderson, C NW NE sec. 17-20-37. T.D. 2,400 ft.; W.O.C.
Ohio Oil Co. No. 3 State-McGrail, C NE SW sec. 26-19-36. T.D. 1,260 ft.; set csg.
Gulf Oil Corp. No. 4-F Graham State, C SW SE sec. 36-19-36. Rigging up rotary.
Amerada Pet. Corp. No. 5 Byrd, C SE NW sec. 12-20-36. Drlg. 200 ft.
Amerada Pet. Corp. No. 1 Laughlin, W NW NW sec. 9-20-37. Drlg. 985 ft.
Gulf Oil Corp. No. 5 Anderson, C SE NW sec. 17-20-37. Derrick.
Phillips Pet. Co. No. 2 Mexico, C SW NE sec. 18-20-37. Cellar and pits.
Superior Oil Corp. No. 1 State B, C NE SE sec. 13-20-36. Drlg. 170 ft.
Amerada Pet. Corp. No. 4 Lambert, C SE NE sec. 6-20-37. Rigging up rotary.
Ohio Oil Co. No. 2 Laughlin, C SE NW sec. 9-20-37. T.D. 160 ft.; set csg.
Humble O. & R. Co. No. 4 Laughlin, C SW SE sec. 4-20-37. Drlg. 2,575 ft.
Amerada Pet. Corp. No. 4 Phillips, C NW NE sec. 1-20-36. Location.
Amerada Pet. Corp. No. 1-X State, C NW SW sec. 16-20-37. Location.
Amerada Pet. Corp. No. 8 Weir, C NW NW sec. 35-19-36. Cellar and pits.
Barnsdall Oil Co. No. 8 Cooper, C SE SE sec. 12-20-36. Cellar.
Continental Oil Co. No. 16-C-1 State, C SW NW sec. 16-20-37. Cellar and pits.
Gulf Oil Corp. No. 1 Bates, C SE SE sec. 26-19-36. T.D. 36 ft.; set csg.
Gulf Oil Corp. No. 1-D Orcutt, C NW NE sec. 13-20-36. Location.
Phillips Pet. Co. No. 1 Edna State, C NW NW sec. 30-20-37. Location.
Phillips Pet. Co. No. 1 Mexico-State, C NE NE sec. 30-20-37. Location.
Repollo Oil Co. No. 4-A Phillips, NW SW sec. 31-19-37. Cellar and pits.
Tide Water Oil Co. No. 2 Laughlin, C NE SW sec. 4-20-37. Cellar and pits.

### Chaves County

J. & L. Drlg. Co. No. 1 Hurd, C SE NW sec. 14-11-26. T.D. 190 ft.; R.U.R.

### Eunice Area

Getty Oil Corp. No. 1 State D, C SE NE sec. 32-20-37. T.D. 3,860 ft.; S.D. for orders.
Gulf Oil Corp. No. 2 Sunshine, C SE SW sec. 30-20-37. T.D. 3,840 ft.; to acidize.
Gulf Oil Corp. No. 4 Collins, C NE SW sec. 14-21-36. T.D. 3,880 ft.; swabbing.
Gulf Oil Corp. No. 4 Houston, C NW SE sec. 7-21-36. T.D. 3,811 ft.; set csg.
Gulf Oil Corp. No. 4 Leonard, C SW NE sec. 22-21-36. T.D. 3,905 ft.; P.B. to 3,892 ft.; to set packer.
Continental Oil Co. No. 18-B-4 Meyer, C NW NE sec. 4-21-36. T.D. 3,840 ft.; testing.
Continental Oil Co. No. 4-D-11 State, C NE SW sec. 11-21-36. Drlg. 3,725 ft.
Jim Murray No. 4 State-Wallace, sec. 3-21-36. Cellar.
Shell Pet. Corp. No. 3 State K, C SW NE sec. 36-20-36. Drlg. 3,513 ft.
Gulf Oil Corp. No. 1 Bell-Ramsey B, C SW SW sec. 29-20-37. Drlg. 1,925 ft.
Gulf Oil Corp. No. 5 Leonard, C NE NE sec. 22-21-36. Coring 2,864 ft.
Amerada Pet. Corp. No. 3-W State, C SW NE sec. 30-20-37. T.D. 2,540 ft.; set csg.
Amerada Pet. Corp. No. 4-W State, C SE SE sec. 30-20-37. Rigging up rotary.
Continental Oil Co. No. 7-D-15 State, C NW SE sec. 15-21-36. Drlg. 3,082 ft.
Gulf Oil Corp. No. 12-C Arnott-Ramsey, C NW SE sec. 21-21-36. Drlg.
Shell Pet. Corp. No. 2-H State, CWL NE NE sec. 13-21-35. Drlg. 1,634 ft.
Humble O. & R. Co. No. 11 State-Aggies, C NE NE sec. 31-20-37. Drlg. 2,975 ft.
Atlantic Ref. Co. No. 5 State L, C NW NW sec. 3-21-36. Drlg. 1,143 ft.
Two States et al No. 1 State, C SE NW sec. 11-21-36. T.D. 2,878 ft.; S.D. for fuel.
Gulf Oil Corp. No. 2 White, C NE SE sec. 25-20-36. Drlg.
Texas Co. No. 6 Lilu-Lands, C NW NE sec. 20-20-37. Rigging up rotary.
Mid-Continent Pet. Corp. No. 1 Reener, C NW NW sec. 29-20-37. Loc.
Texas Co. No. 5 State-Aggies, SE NE SE sec. 31-20-37. Derrick.
Tide Water Associated Oil Co. No. 1 Marshall, C SW NE sec. 13-21-36. Drlg.
Continental Oil Co. No. 14-B-6 Lockhart, C SW SW sec. 14-21-36. Drlg.
Continental Oil Co. No. 15-D-8 State, C SE SE sec. 15-21-36. Rigging up rotary.
Ohio Oil Co. No. 6 McDonald, C SE SW sec. 16-22-36. Cellar.
Oil Well Drlg. Co. No. 1 State A, C NW NW sec. 16-22-36. Drlg. 1,432 ft.

### Sims Area

Skelly Oil Co. No. 1 R. R. Simms C, C SE SW sec. 3-23-37. T.D. 3,388 ft.; drlg. by at 3,344 ft.
Penrose & Rowan No. 3 Cary, C SE NW sec. 22-22-37. T.D. 1,150 ft.; S.D.O.
W. H. Street et al No. 1 Wood, C W½ SE NE NE sec. 22-22-37. T.D. 3,654 ft.; flowed 150 bbls., 24 hrs.
J. E. Farrell No. 1 Walden, C sec. 15-22-37. T.D. 3,686 ft.; flowed 60 bbls. per day.
J. E. Farrell No. 1-A Walden, C SW NW sec. 15-22-37. T.D. 3,551 ft.; S.D.
Skelly Oil Co. No. 2 R. R. Simms, C NE SW sec. 3-23-37. T.D. 3,599 ft.; flowed 217 B.O.P.D.
Skelly Oil Co. No. 2 Ella Simms, C SW NE sec. 3-23-37. Drlg. 3,511 ft.
Skelly Oil Co. No. 4 Baker, C SW NW sec. 27-22-37. T.D. 2,584 ft.; set csg.
Texas Co. No. 1 Falby, C NE NW sec. 8-22-37. Location.

### Cooper Area

Southern Oil Corp. No. 1 Gates, C SW NW sec. 23-24-36. T.D. 3,514 ft.; S.D. for orders.
Shell Pet. Corp. No. 1 Guthrie, C SW SE sec. 34-23-36. T.D. 3,928 ft.; P.B. 3,780 ft.; gas gauged 24,191,000 ft.
Continental Oil Co. No. 1 Danciger, C NW NE sec. 8-22-36. Drlg. 1,025 ft.
Amerada Pet. Corp. No. 3 Isabell, C SW NE sec. 15-24-36. Bldg. drk.

### Lea County—Miscellaneous

Plains Prod. Co. No. 4 Knight, C SW SW sec. 22-24-37. T.D. 3,275 ft.; set csg.

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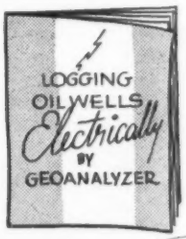


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Culberson-Irwin & Stovall No. 2 Stuart, NW SE NE sec. 20-25-7. T.D. 3,421 ft.; testing.
Brown & Reynolds No. 1 Parcell, C NW SE sec. 8-21-38. Wildcat; T.D. 4,373 ft.; running csg.
Amon G. Carter No. 2 Elliott, C NE NW sec. 22-22-37. T.D. 3,622 ft.; fishing.
Magnolia Pet. Co. No. 1 State G, NW NW NE sec. 24-17-34. T.D. 4,905 ft.; P.B. 4,775 ft.; swabbing.
Culberson-Irwin & Stovall No. 3 Stuart, NE SE SW sec. 10-25-37. Cellar and pits.
Continental Oil Co. No. 1 Wantz, C SW SW sec. 21-21-37. T.D. 3,815 ft.; testing.
Maljamar Oil & Gas Co. No. 8 Baish, C SW NW sec. 21-17-32. T.D. 2,287 ft.; set csg.
Ohio Oil Co. No. 5 State-McDonald, sec. 16-22-36. Drlg. 3,906 ft.
Stanolind O. & G. Co. No. 1 Meyers, sec. 22-24-37. T.D. 3,422 ft.; gas, 3,400,000 ft.
Texas Co. No. 1 Alexander, sec. 5-21-37. Drlg. 3,485 ft.
El Paso Natural Gas Co. No. 1 Harrison, C NW NW sec. 7-25-37. T.D. 3,558 ft.; P.B. 3,300 ft.; acidized.
Sun Oil Co. No. 2 Stewart, C SW NE sec. 15-25-37. Rigging up rotary.
Tide Water Oil Co. No. 2 Walden, C SW NE sec. 21-22-37. Drlg. 2,250 ft.
Continental Oil Co. No. 1 Skaggs Permit, C NE SE sec. 24-20-37. Wildcat; drlg. 3,505 ft.
Tide Water Associated Oil Co. No. 2 Walden, C SW NE sec. 21-22-37. Drlg. 2,620 ft.
Shell Pet. Corp. No. 2 Black, C SW SE sec. 21-24-37. Drlg. 3,495 ft.
Texas Co. No. 3 Sheppard B, SW NE NE sec. 5-26-37. Drlg. 3,228 ft.
J. L. Perry No. 1 Elliott, SE cor. sec. 19-21-37. Standardizing.
Samedan Oil Co. No. 3 Hughes, sec. 4-23-37. T.D. 630 ft.; running csg.
Texas Co. No. 2 Black, sec. 21-24-37. T.D. 1,322 ft.; set csg.
Gulf Oil Corp. No. 1 Hardy, C SE SW sec. 20-21-37. Rig.
Mack & Stauffer No. 1 Grizzell, C NW NE sec. 8-22-37. Drlg. 930 ft.
Anderson-Prichard Oil Corp. No. 1 Wells, C SE SE sec. 5-25-37. Cellar and pits.
Herschback et al No. 1 Alston, C SW NE sec. 31-17-37. Wildcat; rigging up rotary.
J. C. Clower No. 2 Turner, SW SW SE sec. 29-21-37. T.D. 1,193 ft.; set csg.
Continental Oil Co. No. 4 McCallister A, C N½ NE SE sec. 24-26-36. Drlg. 1,225 ft.
Williams & Cockburn No. 3 Miller, C SW SW sec. 23-17-32. T.D. 3,470 ft.; fishing.
Gulf Oil Corp. No. 1 Mattern B, NE NE SE sec. 30-21-37. Drlg. 125 ft.
Ohio Oil Co. No. 1 Grizzell, C SW SE sec. 5-22-37. Loc.
Mid-Continent Pet. Corp. No. 1 Boren, C NE NE sec. 20-22-36. Bldg. drk.

### Eddy County

Etz Bros. No. 3 State, sec. 16-17-30. T.D. 3,252 ft.; S.D. for csg.
McGinley & Harwell No. 7 Mann, SW cor. sec. 4-18-27. T.D. 2,285 ft.; testing.
Flynn, Welch & Yates No. 75 State, C E½ SE SE sec. 10-19-28. T.D. 2,135 ft.; S.D.O.
Flynn, Welch & Yates No. 3 Gissler, SW SE SW sec. 14-17-30. T.D. 3,503 ft.; running tubing.
Adams et al No. 1 Page, sec. 15-21-18. Wildcat; machine.
Republic Prod. Co. No. 7 Russell A, NW SE NW sec. 18-17-31. Drlg. 2,765 ft.
Red Lake Oil Co. No. 8 State, SE NW SW sec. 22-17-28. Drlg. 1,758 ft.
Republic Prod. Co. No. 3 Robinson Permit, C NE NE sec. 27-17-29. Drlg. 1,645 ft.
Barnsdall Oil Co. No. 5 Dodd, sec. 22-17-29. Drlg. 1,890 ft.
Flint Prod. Co. No. 1 Flint, sec. 14-17-30. T.D. 3,459 ft.; flowed 150 bbls., 24 hrs.; reacidized; shut in.
William Dooley No. 2 Hatchett, SW SW NE sec. 14-20-26. T.D. 80 ft.
Nells Wills et al No. 1 Chase, C NW SW sec. 6-20-30 Wildcat; T.D. 340 ft.; set csg.
H. C. Wells et al No. 1 State, NW SW NW sec. 19-20-30. Wildcat; T.D. 380 ft.; set csg.
H. & W. Drlg. Co. No. 1 Forgarty, C SW SW sec. 14-23-29. Wildcat; T.D. 195 ft.; set 8¼-in. csg.

### Roosevelt County

Clovis Corp. No. 2 Wilmes, C SE NE sec. 17-2s-30e. Drlg. 2,465 ft.
Wirt Franklin and Flynn, Welch & Yates No. 1 Catts, C NW NW sec. 28-3n-30e. T.D. 5,195 ft.; fishing.

### Hobbs Field

Stanolind O. & G. Co. No. 30-X Capps, SE sec. 3-19-38. T.D. 4,205 ft.; flowed 93 B.O.P.H.; acidized.

### Otero County

George Muldey No. 1 State, SW cor. sec. 11-25-8e. Spudded.
O. K. Hearte No. 1 Hattie Evans, NW NW SW sec. 22-24-12. O.W.D.D.; wildcat; T.D. 1,960 ft.; underreaming.

## NORTHWEST NEW MEXICO

### Bernalillo County

Norins Realty Co., Inc., No. 2 North Albuquerque, NE SE NW sec. 19-11n-4e. S.D. 3,000 ft.; contr. depth; prep. to resume under new contr. to go to 5,000 ft.

### McKinley County

S. Dysart et al No. 1 Bouton, NW NE sec. 14-14n-10w. T.D. 1,390 ft.; pulled 4½-in. and S.R. to bottom.

## COLORADO

### Adams County

Glenridge Oil Corp. No. 1 Hills, SE SE SE sec. 27-3s-64w. T.D. 4,260 ft. (C.D.); U.R. 6¼-in. at 4,260 ft. for W.S.O.

### Huerfano County

S. W. Pressey No. 1 Ojo, SW NE sec. 10-29s-69w. Drlg. 3,310 ft.

### Kiowa County

The Gulf Oil Corp. No. 1 Risser-Union Pacific, C SW NE section 1-17s-50w, on the Galatea high in the Eads district, an important wildcat in eastern Colorado, has reached a depth of 6,175 feet and is bottomed in schist. It went into the schist at 6,150 feet and the formation then was drilled and cored to the present total depth. It is shut down for orders and probably will be abandoned. The well had several small shows of oil from the top of the Pennsylvanian down to the Ordovician, one or two of these being in the last named formation. These were not, however, of particular importance. The top of the Pennsylvanian was at 3,925 feet, where the 10¾-inch was cemented, and the top of the Mississippian at 5,373 feet.

This well was the only test drilling in eastern Colorado where more than 4,000,000 acres are under lease. Had it come in as a producer, a drilling campaign by a number of companies probably would have been launched almost over night. Its failure means that an area nearly 150 miles square is still an enigma as far as its oil possibilities are concerned. The Gulf company has made no announcement of its future plans, but with 1,230,000 acres under lease and the most complete geology of any company in that area, it is considered hardly likely that it will rest the fate of its large investment on one dry hole.

How indeterminate is the effect of this one test on the future of eastern Colorado may be judged by the following airline distances between deep tests drilled in the past year or two. The Gulf well is 90 miles southwest of the Indian Territory Illuminating Oil Co. No. 1 Strangways, in Yuma County; 85 miles south of the Indian Territory No. 1 Vorce in Washington County; 150 miles southeast of the Continental Oil Co. No. 1 Bank of Trenton in Weld County, and 36 miles northwest of the Trojan Oil & Gas Co. No. 1 Lotus, in Prowers County. Last named, which also went to the Ordovician, had several good shows of oil. Until other highs are drilled and the nature of the beds east and west of the granite ridge is determined, no final verdict can be rendered on eastern Colorado.

### Las Animas County

Garcia Corp. No. 1 McClung, NE NW SE sec. 19-33s-61w. S.D. 1,816 ft.; prob. abd.

### Moffat County

The Mountain Fuel Supply Co. No. 1 Hal Stew-

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art, C SW SW section 32-12n-97w, on the Powder Wash structure, the second oil well on that dome, which was reported two weeks ago to have flowed 30 bbls. an hour through the 10¾-inch casing at 3,110 feet, was deepened to 3,113 feet and completed. It was allowed to flow for 30 minutes in which time it made 77 bbls., or at the rate of 3,690 bbls. a day, and was then shut in for lack of storage.

Mountain Fuel Supply Co. No. 1 Donnell, C SE NE sec. 31-12n-97w. R.U.R.
Anderson-Kerr Drlg. Co. et al No. 1 Govt., C SE SE sec. 19-9n-99w. Drlg. 1,000 ft. in Wasatch.

**Morgan County**

Swisher et al No. 1 Lunt, SE cor. sec. 3-4n-60w. T.D. 1,718 ft.; C.O.

**Park County**

South Park Oil Co. No. 1 Lemar, NE NE SE sec. 34-11s-75. Cmtd. 10¾-in. on bottom at 4,060 ft. with 100 sacks.
South Park Oil Co. No. 1 State, SE NE SW sec. 16-11s-75w. S.D. 5,705 ft.

### Prowers County

Reports from an unofficial but reliable source are to the effect that the Cottonwood block in Townships 21 and 22s, Ranges 44 and 45w, will be drilled this spring by the Continental Oil Co. and associates. The top of the structure is approximately in section 31-21s-44w. This is approximately 36 miles southeast of the Gulf Oil Corp.'s test in Kiowa County and 12 miles northeast of the Trojan well in Prowers County. This is one of the few blocks in eastern Colorado which has indications of surface structure. The Continental company has 18,000 acres almost solid, with the Texas, California, Magnolia, Gulf and Indian Territory represented with leases. Definite surface structure and detailed seismic survey were made by the Continental company. The Indian Territory company core drilled the area and last summer the Amerada Petroleum Corp. shot the district.

## WYOMING

**Albany County**

Murphy Oil Co. No. 3 Wilson, SW NW SW sec. 18-17n-76w. M.I.M.
Murphy Oil Co. No. 6 Holst, NW NE SE sec. 13-17n-77. T.D. 3,961 ft.; 7-in. cmtd.

### Big Horn County

The Stock Oil Co. No. 1 Allen, SE NW SE (Lot 52) section 32-56n-97w, on the Garland dome, which has been out of control since January 19, 1936, and which was on fire three times, was successfully plugged the past week. The Perkins Oil Well Cementing Co., using four heavy duty cement trucks, began running cement last Saturday and by noon Sunday, February 28, the job was finished. The operators used 4,000 sacks of cement, 2,500 sacks of baroid and 2,000 bbls. of mud. When the well blew in at 3,815 feet more than a year ago it was estimated at 60,000,000 feet of gas a day. Just before plugging it was estimated at 23,000,000 feet. At one time the flow was believed to have reached 100,000,000 feet. Total gas lost is estimated at around 20,000,000,000 feet.

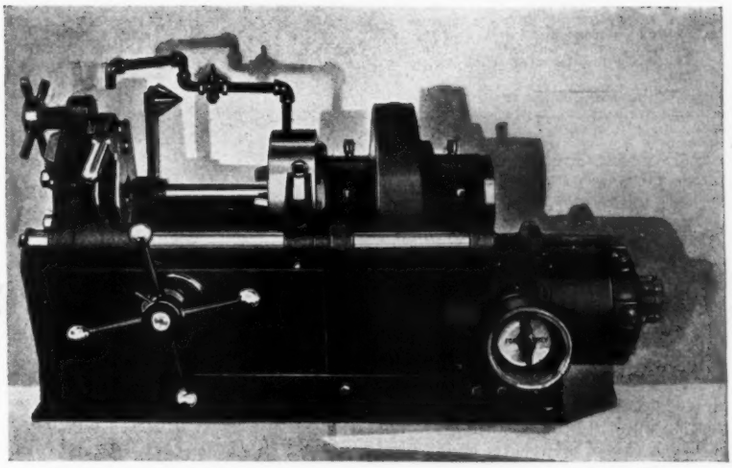
The Stock company No. 1-B Allen, drilled 190 feet west of the gasser to 3,800 feet and used to pump water, will be carried on into the Madison and completed.

Stock Oil Co. No. 1-B Allen, Lot 52, sec. 32-56n-97w. T.D. 3,800 ft.; washing over D.P. to loosen and resume drlg. to Madison.
Ohio Oil Co. No. 1 Baker-Byron, SE NW sec. 23-56n-97w. Cmtd. 10-in. at 2,383 ft.
Ohio Oil Co. No. 1 State, NE cor. Lot 38, sec. 36-56n-97. T.D. 5,418 ft.; W.O. acid; small well on swbg. test in Embar-Tensleep at 5,331-5,418 ft.

### Carbon County

The General Petroleum Corp. of California No. 1 Union Pacific, SW SW NW section 5-19n-83w, Overland dome, was plugged and abandoned after failure to find commercial production in the General Petroleum sands at 2,875-3,050 feet. It was drilled to 5,557 feet and stopped in the Jelm sand in the top of the red beds. The Lower Sundance had water. Top of Frontier was at 3,930 feet; Dakota sand at 4,988-5,001 feet and Lakota at 5,030-60 feet. Location is 4 miles southeast of Earl W. Reeder, Inc. No. 1 Whitford, C SW SW section 19-20n-83w, which has been standing at 5,931 feet while No. 1 Union Pacific was drilling. No. 1 Whitford had good shows of oil in several horizons, but hole was reported in bad shape. Operation has been turned back to original company.

Ohio Oil Co.-California Co. No. 2 Kyle, C SE SE sec. 26-21n-79w. Drlg. 2,412 ft.

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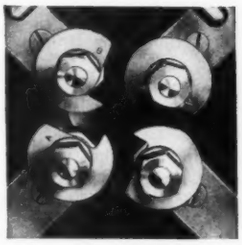

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Ohio Oil Co.-California Co. No. 4 Union Pacific, C SW SW sec. 25-21n-79w. Drlg. 700 ft.
Ohio Oil Co. No. 1 H.&C., SE SE SW sec. 35-20n-78w. T.D. 3,230 ft.; milling on iron; top Sundance 3,190 ft.
Ohio Oil Co. No. 7 H.&C., C NW sec. 2-19-78. Drlg. 5,632 ft.; top Embar 5,300 ft.; top Tensleep 5,591 ft.; no sat. to present bottom.

**Converse County**

Wyoming Southern Oil Co. No. 2 Salisbury, NE NW SE sec. 27-32n-69w. Drlg. 400 ft.

### Fremont County

Tropic Oil Co. No. 1 Govt., C SE SW sec. 34-27n-90w. S.D. 3,160 ft.

**Goshen County**

Ohio Oil Co. No. 1 Red Cloud Cattle Co., NW NE NW sec. 28-20n-62w. Drlg. 2,735 ft. in r.b.

**Laramie County**

Amerada Pet. Corp. No. 1 Morton, C SW SW sec. 13-13n-68. Drlg. 9,195 ft. in r.b.

**Lincoln County**

Place Oil Co. No. 1 Davis, SE SE SE sec. 9-26n-113w. S.D. 750 ft.

### Johnson County

The Carter Oil Co. released location this week for its deep test on the Billy Creek structure. This well, its No. 3 Rider, C NW SE section 17-48n-82w, is located only a few hundred feet from its No. 2 Rider, which was drilled to 4,398 feet in 1927 and plugged back to the Frontier and completed for 70,000,000 feet of gas. No test has gone below the Morrison on this structure. Below that formation are the Sundance, Embar and Tensleep, all of which are productive in a number of Wyoming fields. This is the first well drilled by the Carter company in this territory for several years. Heavy duty rotary equipment will be used.

Carter Oil Co. No. 3 Rider, C NW SE sec. 17-48n-82w. Loc. (first report).

### Natrona County

The Wyalta Oil Co., of which George W. Jarvis is head, has resumed operations in the Spindletop field southwest of Casper. It is cleaning out three old wells and putting them on production, is drilling two more wells, made a location for another and is preparing to drill a deep test this summer. Present production is in the Sundance.

Wyalta Oil Co. No. 4 Govt., NW NW sec. 5-29n-81w. Cmtd. 6⅝-in. on top of Sundance at 1,040 ft.; W.O.C.
Wyalta Oil Co. No. 5 Govt., SW SW sec. 30-30n-81w. Drlg. at 300 ft.; 10-in. at 82 ft.
Wyalta Oil Co. No. 6 Govt., NW NW sec. 5-29n-81w. Bldg. road to loc.

### Niobrara County

In completion report two weeks ago on the Ohio Oil Co. No. 9 Lamb in the Lance Creek field its location was inadvertently given as C SE NW section 5-35n-65w, which is location of one of the Argo Oil Co.'s producing wells on the Elliott lease. Location should have been in C SE NE section 9.

Continental Oil Co. No. 3-P Schuricht, C SE SE sec. 6-35n-65w. Drlg. 2,375 ft.

J. M. Huber Corp. No. 1 Midwest, SE SE SW sec. 27-36n-65w. R.U.R.
Holly Dev. Co. No. 1 Novick, NE SE SW sec. 6-35n-65. Drlg. 3,782 ft.; 7-in. cmtd. 3,445 ft.
Ohio Oil Co. No. 7 Putnam, NE NE SW sec. 33-36n-65w. T.D. 3,967 ft.; top basal Sundance 3,930 ft.; tstg.
Ohio Oil Co. No. 5 Leo, NW NW SW sec. 35-36n-65w. Drlg. 2,375 ft.

**Park County**

General Pet. Corp. No. 1 Govt., NW NW NW sec. 33-47-100. T.D. 5,684 ft.; rec. lost D.P.; rmg. below 5,000 ft. to set 9⅝-in. csg. in sat. Embar.

**Platte County**

Dividend O. & R. Co., Inc., No. 1, CSL NW SW sec. 17-24n-66. S.D. 2,385 ft.; C.D.

### Weston County

The Conway Oil Corp. No. 2 Government, SE SE NW section 7-41n-60w, Dewey district, was plugged and abandoned when water was encountered in the bottom of the Minnelusa at 2,295-2,305 feet. Upper part of sand had a show of oil.

Charles Stough No. 6, C SE NW sec. 4-46n-63w. Drlg 190 ft.

## MONTANA

**Carbon County**

Miracle Oil Co. No. 2 Govt., CWL NE SE sec. 3-6s-23e. T.D. 1,260 ft.; landed 8¼-in. at 1,250 ft.; fsg.
Ohio Oil Co. No. 1 N. P., SE NE SW sec. 11-7s-21e. T.D. 5,772 ft.; P.B. to 4,470 ft.; pulled 4½-in.; recmtd. 6⅝-in. at 4,436 ft.; 60 sacks.

**Fallon County**

Montana-Dakota Utilities Co. No. 3 Smith No. 1, Unit 8, C SE NW sec. 8-4n-62e. T.D. 6,765 ft.; 9⅝-in. cmtd. at 6,750 ft.; W.O.C.
Nagasco Corp., Inc., No. 1, C SE sec. 24-5n-60e. Drlg. 560 ft.; (first report).

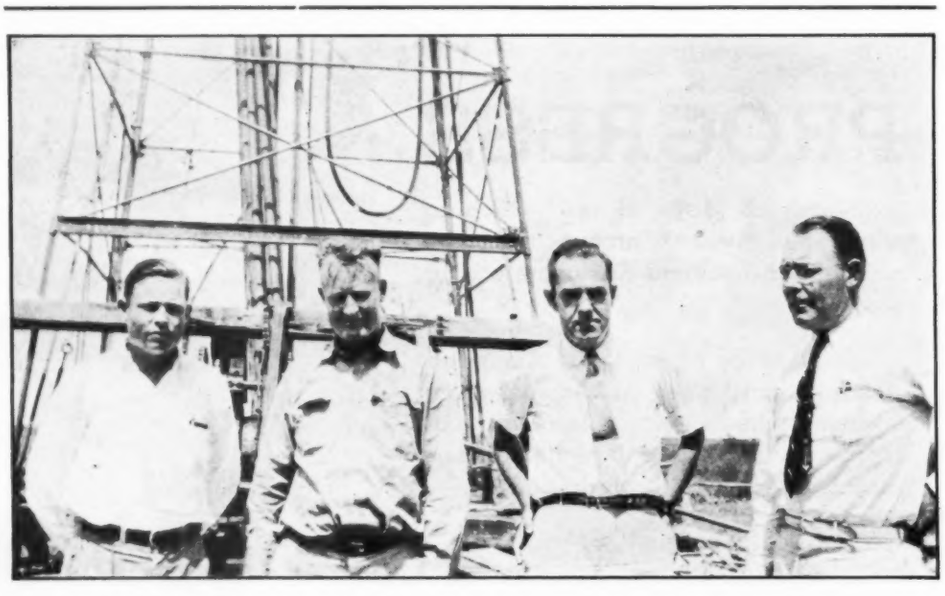
### Glacier County

Cut Bank operations continue to increase with improved weather conditions and there were nine active wells this week, including rigs, and two new locations.

The Northwest Refining Co.'s new refinery at Cut Bank is nearing completion. The equipment was housed in before the cold weather tied up the field and as a result construction went ahead without interruption. The tankage, of which there are 240,000 bbls. capacity for crude storage and 139,000 bbls. for refined products, is completed. Charging capacity will be 2,500 bbls. daily. It will take crude principally from the wells of the Santa Rita Oil & Gas Co.

Kately, Drumheller-Ward No. 5, C Lot 4 (SE SE) sec. 10-34n-6w. Spdg. 75 ft. (first report).
Wm. Hanlon, Agt. No. 2 All.-128, C NW SE sec. 12-32n-6w. R.U. (first report).
Dakota-Montana Oil Co. No. 1 Tribal-136, C NE NE sec. 15-34n-6w. T.D. 1,995 ft.; fsg.
Wm. Hanlon, Agt. No. 2 All.-131, C Lot 9 (SW NW) sec. 7-32n-5w. Spdg. 225 ft.
Glacier Prod. Co. No. 1 Abraham, C SW SE sec. 19-34n-5w. Drlg. 375 ft.
Glacier Prod. Co. No. 5 Seeba, CWL NW NW sec. 2-34n-6w. Rng. 10¾-in. at 573 ft.; Colo. 545 ft.
Glacier Prod. Co. No. 1 Williams, C SW SE sec. 21-33n-5w. Drlg. 1,985 ft.

*(Continued on Page 115)*



***Down in the Haynes field in Zapata County, Texas, where shirt-sleeve weather prevails on many winter days, these oil men were grouped for a photographic shot: George Buck, independent operator, Laredo; "Red" Branscumb, superintendent for Gilcrease Oil Co., Corpus Christi; T. H. Gilbert, vice president of Valley Osage Oil Co., Laredo, and L. J. Rea, independent operator of Fort Worth***

## Oklahoma Fields

*(Continued from Page 103)*

H. Gubser and Gilbert Marshall and Chris Pearson and others.

Elsewhere in Tulsa County: Sinclair Prairie Oil Co. No. 1 Barber, C SE NE section 14-17-12, was an abandoned location.

Klingensmith No. 1 Gilcrease, SW NW SW section 34-17-12, was moving in machine. Swift Brothers and others No. 4 McKee, C NE SW section 13-19-10, was drilling at 1,578 feet.

### Muskogee County

Sand Springs Home No. 1-A Lothar, C SW SW section 17-13-19, Muskogee County, had a hole full of water in gray lime and was dry and abandoned at 2,008 feet, total depth. Harry Hanna and others No. 1-A Southworth, SE SE NE section 1-14-16, had a hole full of water in sand at 1,554-74 feet, total depth, and was dry and abandoned.

### Pawnee County

Christie & Reynolds No. 5 Finley, SW NE NW section 31-21-9, Pawnee County, was drilling below 800 feet. Six-inch casing was set at 505 feet.

### Pottawatomie County

Mid-Continent Petroleum Corp. No. 1 Logan, NE NE SE section 31-11-5, wildcat northeast of Shawnee in Pottawatomie County, topped Belle City at 1,955 feet; Hogshooter 2,400 feet; Checkerboard 2,740 feet; total depth 3,324 feet; shot off drill pipe at 3,252 feet; plugged back to 3,194 feet; set whipstock at 3,256 feet; ran Eastman survey, and abandoned the well.

Commercial Drilling Co. No. 1 Brandenburg, NE SW NE section 3-7-4, an old well in the St. Louis area, was deepened from 4,060 feet to 4,145 feet, where it had a hole full of water; plugged back to 3,980 feet, pumped 15 bbls. of oil in 24 hours and was recompleted.

Mid-Continent Petroleum Corp. No. 1-A Logan, NE NE SE section 31-11-5, has spudded at a new wildcat test northeast of Shawnee.

### Jefferson County

Palmer and others No. 1 Grayson, SW SE SW section 19-6s-5w, Jefferson County, had sand at 1,521-42 feet, total depth, pumped 65 bbls. of oil in 24 hours and was recompleted.

New work in Jefferson County: Fields and others No. 1 Trout, NE NE SW section 5-8s-7w, wildcat south of Terral, near the Texas border, rigging up rotary tools; Palmer and others No. 2 Grayson, SW SE SW section 19-6s-5w, waiting on cement at 28 feet, total depth; Bridwell Oil Co. No. 10 Wahlgemuth, NW NW NE NW section 30-6s-5w, pits.

### Caddo County

English Drilling Co. No. 3 Gafney, C E half NW SE section 31-6-9w, an oil well in the Cement field, Caddo County, was deepened from 2,292 feet to 3,300 feet, pumped 40 bbls. of oil in 24 hours and was recompleted.

### Stephens County

Angle & Angle No. 1 Irvine, SW SW NE section 24-1n-7w, wildcat in Stephens County, was an abandoned location, lease having expired.

Mudge Oil Co. No. 11 Roberson, CNL SW SW section 10-3s-5w, was a machine.

### Jackson County

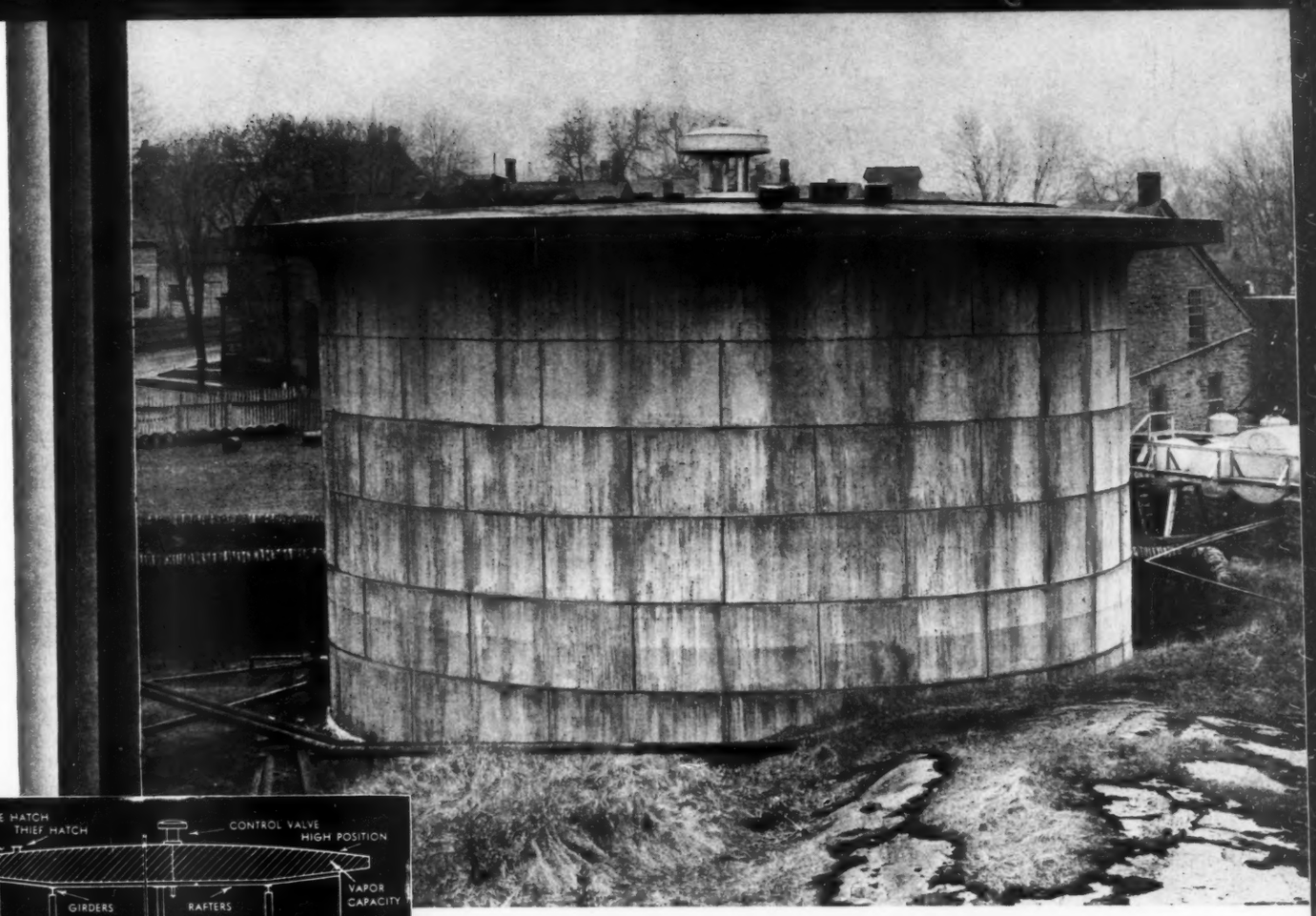
Gulf Oil Corp. No. 4 Byrd, SW SW NW section 14-1n-20w, Altus area, Jackson County, had a show of oil in Granite Wash, topped at 1,425 feet, but was abandoned after drilling to 1,629 feet, total depth, and plugging back to 1,380 feet. Same operator's No. 2 Ely, SE cor. section 10-1n-20w, an old well, was deepened from 1,758 feet to 2,321 feet; plugged back to 1,321 feet; produced 100,000 feet of gas and was recompleted.

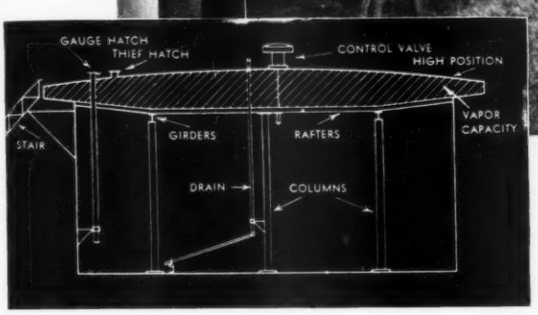
Gulf Oil Corp. No. 4 Ely, NW NE SE section 10-1n-20w, was a location.

### Other New Work

In Payne County, Bill Riddle No. 1 Van Zandt, NW NW SE section 16-18-3, wildcat northwest of the Mehan area, was a location.

In Comanche County, Edwards & Kadene No. 3 Culberson, NE cor. section 32-2n-10w, was drilling with machine at 200 feet.






# The WIGGINS BALLOON ROOF

THE Wiggins Balloon Roof is a new big brother of the Wiggins Breather Roof. It operates on the same general principle of preventing evaporation loss by providing for expansion and contraction of vapor without permitting any to be vented out of the tank. It differs from the Breather roof principally in that the design permits greater vapor capacity.

### *Construction*

As indicated by the accompanying diagram, the top deck of the Balloon roof is a flexible steel diaphragm having a diameter greater than that of the tank upon which it is used. At the periphery of the roof is a vertical steel rim, the lower edge of which is attached to the top of the tank shell by an extension plate. Thus, when vapor in the tank expands, the top deck flexes up first just like a Breather roof and then the extension plate flexes—permitting the entire roof to be lifted and greatly increasing its capacity.

### *Control*

The limit of the upward movement of the Balloon roof is established by a link attached to the volume control valve. This link is adjusted to pull open the control valve when the top deck is lifted beyond a predetermined height. The lower limit is reached when the top deck rests on the roof rafters and the control valve will open if continued contraction causes internal pressure to drop below a given point. Thus roof and tank are completely protected against damage from both excessive pressure and vacuum yet will remain vapor-tight at all other times.

The standard dimension for the extension of the Balloon roof beyond the tank shell is 6 ft., but this can be varied readily to meet individual requirements. An example of a standard installation made on an existing tank is illustrated above. This was for the Imperial Oil Co., Ltd. at Brockville, Ont. The roof is 66 ft. dia. and the tank shell, 54 ft. dia.

### *Recommended Uses*

Because the Wiggins Balloon Roof has considerably more capacity than the Breather Roof, it can be recommended for more types of service. Briefly, these uses are:

1. For all tanks less than 60 ft. dia. that are used for standing storage of crude oil or motor gasoline. (Above 60 ft. dia. the Breather roof is suitable for tanks that remain filled or nearly filled most of the time.)

2. For tanks of all sizes handling crude oil or motor fuel and which are filled less than six times per year. The Balloon Roof has capacity to prevent all breathing loss even when tank is nearly empty.

3. For use with several tanks. The vapor space of adjacent tanks having cone or breather roofs can be connected to a Balloon roof, forming a vapor saving system. This utilizes the Balloon roof to greatest advantage.

For complete information about this and other products in the Horton line, address our nearest office. Quotations given gladly on request.

# CHICAGO BRIDGE & IRON COMPANY

| | | | | | |
|---|---|---|---|---|---|
| Dallas | 1441 Dallas Athletic Club Bldg. | Chicago | 2128 Old Colony Building | Philadelphia | 1615-1700 Walnut Street Building |
| Houston | 2919 Main Street | Detroit | 1514 Lafayette Building | Boston | 1517 Consolidated Gas Building |
| Tulsa | 1606 Hunt Building | Cleveland | 2204 Rockefeller Building | San Francisco | 1054 Rialto Building |
| Birmingham | 1536 North Fiftieth Street | New York | 3347-165 Broadway Building | Los Angeles | 1423 Wm. Fox Building |

***FABRICATING PLANTS in Birmingham, Chicago, and Greenville, Pa.***

# Michigan Field Report

By
PAUL A. ELLIOTT

# BUCKEYE POOL WILL SOON BE STATE'S LARGEST PRODUCER

MUSKEGON, Mich., Mar. 8.—The new Buckeye Township, Gladwin County, field of central Michigan continued to mount rapidly toward the undisputed oil production leadership of the state, threatening the unbroken four-year reign of the Porter Township field in Midland County last week.

Daily production of the new Buckeye field in Gladwin County topped 12,000 bbls. during the past week boosting it within 1,000 bbls. of the daily average of the Porter-Yost area of Midland County, still the largest in the state but due to be exceeded soon, as four other tests are expected to be completed in the Buckeye field this week. Fifty projects are listed in various stages from locations to near completions.

Though the Wicklund Development Co., which opened the area where heaviest drilling is now in progress, brought in the two larger new wells making 1,520 and 1,405 bbls. daily, the Mammoth Producing and Refining Co. boosted the flow of No. 1 Ockerman, SE NE SW section 11-18n-1w, to 2,300 bbls. making it the largest producer in the new field. It was increased by deepening several feet.

The Wicklund No. 2-A State, SE SW SE section 11, made 1,520 bbls. daily, as the largest new producer of the week, while the same company brought in No. 3-A State, also on the discovery lease, for an initial output of 1,405 bbls., topping the Dundee at 3,540 feet and drilling to 3,626 feet. Results in these two wells led the operating company to consider deepening the discovery No. 1-A.

Sun Oil Co. struck a flow of 570 bbls. daily at 120 feet in the Dundee in No. 1 Salla, SE NW SW section 11, same township, drilling to 3,611 feet.

Three tests nearing Dundee completion were: Daily Crude Oil Co. No. 1 Jakab, SE NE SE section 10, which struck a show in Traverse and was drilling at about 3,500 feet on a 40-acre lease purchased by the Mammoth company recently, with the drilling well, for $65,280; the Mammoth No. 1-B State, SW SE SE section 11, and the Michigan Producers and Refiners Corp. No. 1 Frances, NE NW NW section 14.

### Southeast Buckeye

In the southeast section of Buckeye Township, where Goll, Graves and Mechling, Inc., got the first producer in the township last year, Rowmor Corp. reported a show expected to do as well as the discovery, or Oard well, or an estimated 200 bbls. daily.

Muskegon Development Co. No. 1 McMahan, SW SW NW section 25, Buckeye Township, was being watched as a possible connecting link between the recent big producers and the Oard section. It was expected to complete within a week or two.

Ten of the 14 permits recently issued were for Gladwin County tests, eight of them in sections 2, 11, 26 and 35, Buckeye Township, one in Beaverton Township and the other a wildcat in Sage Township, Gordon Oil Co. No. 1 Clara B. McClure, NE NW NE section 25-19n-2w.

Of the four other new permits, two were for wildcats in Wise Township, Isabella County, and Boston Township, Ionia County, respectively, and the two for tests in New Haven Township, Gratiot County gas field and the Ogemaw Township, Ogemaw County oil area. New permits for the first two months of 1937 neared 150.

First indication of a failure in the new Buckeye area was revealed in the Fortney Oil Co. No. 1 Miller, NE NE NE section 15, which appeared headed for bottom water after topping the Dundee limestone at 3,557 feet, and drilling nearly 100 feet in. It struck a light show of oil and gas and probably will be plugged back and treated with acid before abandonment, though operators were doubtful of success.

### Clayton—Arenac

Largest of four comparatively small wells in the Clayton Township, Arenac County, field opened shortly before the Buckeye area, was the Turner Petroleum Corp. No. 1 McKay, NE SW SE section 10-20n-4e, rated about 250 bbls., 174 feet in the Dundee, topped at 2,454 feet and drilled to 2,628 feet.

The Gulf Refining Co. No. 1 Kaiander, NE SE NW section 10, was credited with 100 bbls. daily at 2,590 feet; T. F. Caldwell, Inc., No. 1 Peavy, NW SW NE section 9, 50 bbls. a day, or 70 bbls. in 36 hours, at 2,631 feet and Turner Petroleum Co. No. 1 Thompson, NW SE SE section 4, at 25 bbls. a day.

The American Drilling Co. No. 1 Packer, SW NE SW section 14, same township, was dry in the Dundee, as was the Rowmor Corp. No. 1 Thompson, SW SE SE section 31-21n-2e, located about a mile north and west of the Arenac field in Richland Township, Ogemaw County. It topped the Dundee at 2,460 feet and was drilled to 2,648 feet, striking a show at 2,550 feet.

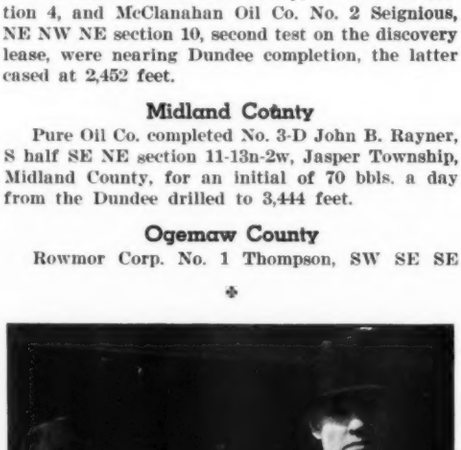
Devonian Oil Co. No. 1 Peavy, NE SW SE section 4, and McClanahan Oil Co. No. 2 Seignious, NE NW NE section 10, second test on the discovery lease, were nearing Dundee completion, the latter cased at 2,452 feet.

### Midland County

Pure Oil Co. completed No. 3-D John B. Rayner, S half SE NE section 11-13n-2w, Jasper Township, Midland County, for an initial of 70 bbls. a day from the Dundee drilled to 3,444 feet.

### Ogemaw County

Rowmor Corp. No. 1 Thompson, SW SE SE section 36-22n-2e, West Branch Township, Ogemaw County, was rated good for 31 bbls. daily from the Dundee. The Dunningan & Fothergill No. 1 Christman, SE SE SE section 19, West Branch Township, topped the Dundee at 2,570 feet and was drilling in.



*H. E. Shafer of Tulsa (right), division superintendent of the Pure Oil Co., on a trip of inspection of the Seminole field, and Carl Douglas, district superintendent in Seminole, taken in front of the Seminole field office*

### Isabella County

Four tests each in Sherman and Vernon Townships, Isabella County, were nearing completion but none was finished.

### Gassers

Largest new gas well of the week, and of recent record in the Belvidere Township portion of the Tri-Townships field, was the R. M. Burch, Trustee, No. 1 Clevenger, C SW SE section 5-12n-7w, which gauged 26,678,000 feet daily in the Michigan Stray sands topped at 1,270 feet and drilled to 1,298 feet, on a location at the west edge of the state's largest gas field.

Wolverine Natural Gas Corp. also struck a freak flow of about 2,000,000 feet daily in No. 1 Kirby and others, C NE section 12, same township, at 814 feet. Drilling was continued toward the Michigan Stray, however, and had reached 1,275 feet with completion expected soon. James & Davis No. 1 McDonald, C SE NE section 8, same township, also was nearing the gas pay.

Though no new wells were completed in the New Haven Township field, Gratiot County, the recently completed Hyatt & Norton No. 1 Cooley, when gauged by state officials, revealed a potential daily flow of 34,200,000 feet, making it the largest gas well in the field.

Two tests, the Roy F. Ide No. 1 Cooley, C NW SW section 3-10n-4w, and the Wiser Oil Co. No. 1 McKinstery and Plank, C NE SE section 5, same township, were nearing completion in the gas sands.

### Ravenna—Muskegon

One new Berea gas well was completed in the Ravenna Township field of Muskegon County for an open flow capacity of 800,000 feet daily, while another was increased by 700,000 feet making 1,500,000 feet for the week.

The West Michigan Consumers Co. brought in No. 1 Wagner and others, C NE section 19-9n-14w, Ravenna Township, for an open flow of 800,000 feet daily after a sand-tamped shot, while the West Michigan No. 1 Thompson and others, C SE section 5, same township, was boosted from 1,000,000 to 1,700,000 feet since it was first reported drilled in the week before.

The West Michigan No. 1 Jibson, C NW section 9, had set casing and was ready to drill in this week, while three new locations, the No. 1 Hoyle, C NW section 4, the No. 1 Cryderman, SW section and the No. 1 Knapp, SW section 9, were being started.

### Wildcats

Lee Brown was reported to have struck a show in the No. 1 Kehrl, NW NW NE section 12-14n, Salem Township, Washtenaw County, but continued drilling toward the Trenton.

### New Projects

F. C. Voss has taken out a permit and moved in to start an offset to the Winfield Township, Montcalm County, discovery well, the Daily Crude Oil Co. No. 1 Weatherby.

The Gulf Refining Co. recently has leased about 8,000 acres in Kawkawlin Township, Bay County, and is planning to start a test well soon.

*Southwest Texas District*

# FIELD RESULTS ARE CONFINED TO EXTENDING KNOWN POOLS

By GEORGE WEBER

CORPUS CHRISTI, Tex., Mar. 8.—Development of new crude production in Southwest Texas during the past week was limited to the discovery and extension of sands in existing fields, and to routine proven field completions, marking a quiet week after the large number of recent important discoveries.

Drilling activity was maintained at the usual rate in the Lower Coastal area, but showed a falling off in the Laredo district. Wildcatting is in progress throughout the area, with interesting tests drilling in the Lower Rio Grande Valley, and the area surrounding Corpus Christi. Duval County figured prominently in new developments, with discoveries of possible potential importance in the Hoffman and Seven Sisters fields. Gas production also attracted interest, with several wells completed and two minor discoveries made. The Saxet field of Nueces County, most active area in the section, showed further development in the new deep horizons recently opened to production, and other of the more shallow sands were extended.

The possibility of a new producing sand to be added to the Seven Sisters field of northern Duval County loomed during the week, as the Humble Oil & Refining Co. tested oil in a northwest outpost test. The well, No. 5 Dowdy fee, located in section 272, cored as follows: Sand with oil odor, 2,385-92 feet; gas sand, 2,556-58 feet; sand with oil odor, 2,558-65 feet. On a drill-stem test at 2,550-66 feet operators recovered 480 feet of oil and had a good blow of gas in three minutes. Five and one-half inch casing has been set at 2,550 feet, and the hole is bottomed at 2,566 feet. Completion attempt will be made this week.

Production in Seven Sisters is coming from three principal horizons at present: A sand body at about 2,220 feet named the Chernosky sand, and the discovery sand of the field; the 2,500-foot horizon, termed the Government Wells sand; and the so-called Loma Novia sand at 2,700 feet, productive on the eastern edge of the field. The general opinion is, however, that the new sand just found on the northwest edge of the field is the Loma Novia, and that it may add to the reserves of Seven Sisters in that part of the field.

### Hoffman Field

The Hoffman field also appeared more important due to results of a wildcat south of the production area. The Argo Oil Co. and Clopton No. 2 Smith Corkill, located in section 61, was flowing some oil at latest reports from sand at 2,680 feet. The test, bottomed at 3,140 feet, was plugged back to sand at 2,760-88 feet. At latest reports the test was making about 250 bbls. of fluid per day, 20 per cent oil and 80 per cent salt water. The No. 2 Smith-Corkill is located about 2½ miles south of Hoffman, and the Argo wildcat, if completed for a producer, may mark an extension or a separate field.

Duval County activity at present is centered in the Government Wells, Hoffman, Loma Novia and Seven Sisters fields, with scattered drilling in Peters, Piedra Lumbre, Charamousca and Kohler.

### Gas Developments

In Webb County a new gas sand was opened when the Cole Petroleum Co. No. 98 Benavides came in making an estimated 60,000,000 feet of gas in a 2,900-foot sand. The gasser is producing on a one-quarter inch choke with working pressure of 400 pounds.

In Karnes County, L. Glasscock's No. 1 Conway was brought in making an estimated 10,000,000 feet at total depth of 3,308 feet. The test, located southwest of the Burnell gas field, and about 4 miles southeast of Green, had previously blown out, before it was controlled and completed. Another blowout which was successfully capped and completed during the week is E. M. Jones No. 1 Ezell in McMullen County. The test blew out late in December and was capped and abandoned, later reworked. It is making an approximate 5,000,000 feet of gas at 1,283 feet.

### Lower Coastal Field

In the Lower Gulf Coast area the Saxet field showed the greatest development during the week. The new deep sands are receiving added attention weekly, as operations taper off on the 5,800-foot Frio sand, which is nearly drilled up. The 6,700-foot and 6,900-foot sands added to the many Saxet production levels have several active tests, with some completions during the week.

The Bentex Oil Co. No. 2 Frank Harmon in Survey 416 was completed for a considerable extension to the 6,700-foot horizon. The test was flowing pipe line oil through a one-eighth inch choke, with tubing pressure of 1,375 pounds and casing pressure of 2,100 pounds, but had not been gauged at latest reports. Perforations were made at 6,742-46 feet. The Bentex well is located 2,000 feet northeast of the nearest 6,700-foot production, opening additional acreage to proven production in that sand, and greatly enhancing the reserve figure of the field.

To the southwest, Conservative Oil Co. marked production limits in the 6,300-foot, 6,700-foot and 6,900-foot sands, but was successfully completed in the 5,800-foot Frio for a distillate producer. The test failed to find any of the deeper sands and was plugged back from 6,977 feet. In the northern section of the field, near Nueces Bay, the deeper sands also failed to show production, as the Oso Drillers, Inc., No. 4 Roark, bottomed at 7,218 feet, failed in successive attempts to complete in the field sands. It was completed during the past week as a gasser from sand at 4,400 feet.

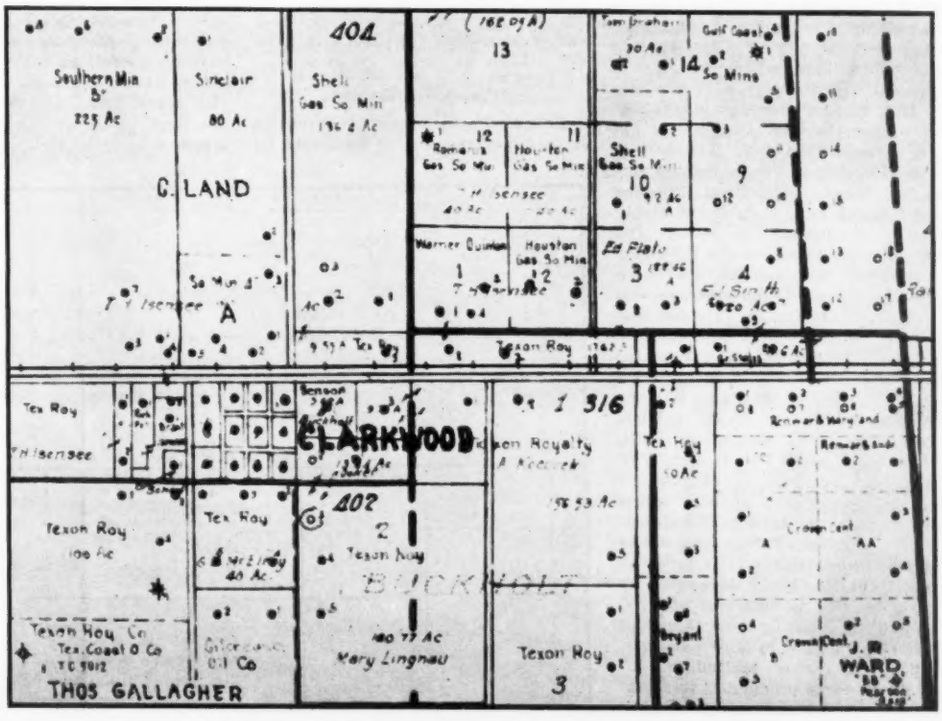
The deepest sand, at 6,900 feet, showed up well in the Phillips Petroleum Co. No. 5 Hutchins during the week when that test cored gas sand at 6,879-90 feet and then took in 11 feet of oil sand to 6,901 feet. The test is coring ahead below 6,920 feet. No. 5 Hutchins is located in Block 29 of the Sheppard Farm Tracts, about 10,800 feet northeast of the Republic Natural Gas Co. No. 3 Ordner, discovery well of the deep sand. The 4,800-foot sand was extended to the southeast when Richardson Petroleum Co. No. 5 Hoelscher came in through perforations at 4,868-70 feet.

### Revival of Saxet Heights

The Saxet Heights or Corpus Christi field on the outskirts of that city is seeking a revival of activity, with several completions made over the past few weeks.

The outstanding wildcat of the area, Allen and Seaboard Oil Co. No. 2 Chapman will attempt completion shortly. The test, southwest of the newly opened London field and about 13 miles southwest of Corpus Christi, tested 1,080 feet of pipe line oil at 6,462-71 feet last week, and later was carried deeper. Total depth is 6,720 feet. Operators are reported planning to perforate for a production test at 6,464-83½ feet.

*(Continued on Page 117)*




*That section of the Saxet field in and around Clarkwood has seen considerable activity in the past few weeks, extending production in the 4,400- and 4,500-foot sands to the east and south. North and northwest is located the production area of the deeper Frio sands.—(Porter Regenold, Maps, Corpus Christi)*

# California Field Report

By
L. P. STOCKMAN

# ENCOURAGING OIL SHOWINGS IN TWO EXPLORATORY WELLS

LOS ANGELES, Calif., Mar. 8.—Wildcat exploration occupied a prominent position in the news in the past week. A number of exploratory wells have found promising showings recently and the list is growing larger each week. One of the most promising of these tests is Barnsdall Oil Co. No. 1 San Francisco, located in the Newhall-Saugus district of Los Angeles Basin. It failed to result in substantial production on a recent test and the company resumed drilling and the hole is down 6,330 feet and has approximately 150 feet of well saturated oil sand and sandy shale. The horizon being prospected by Barnsdall Oil Co. is of Miocene age and recent developments indicate a strong probability that the company will open up a new oil field in the Newhall district upon conclusion of drilling operations. Encouraged by the showings found by Barnsdall Oil Co., Holbrook Oil Co. has resumed work on its wildcat in section 28-4-16, and is expected to begin making new hole within the next few days.

**TANKER SHIPMENTS FROM LOS ANGELES TO DOMESTIC AND FOREIGN PORTS**

| | February 25 | | February 18 | | | |
|---|---|---|---|---|---|---|
| Intercoastal-domestic: | Total this week | Daily average | Total last week | Daily average | This year to date | Same time last year |
| Diesel and gas oil | ..... | ..... | ..... | ..... | 176,726 | 77,391 |
| Gasoline | 91,066 | 13,009 | 115,840 | 16,549 | 286,012 | 637,915 |
| Kerosene | ..... | ..... | ..... | ..... | ..... | 385,956 |
| Foreign exports: | | | | | | |
| Crude oil | 617,198 | 88,171 | 161,870 | 23,124 | 1,531,915 | 1,164,001 |
| Fuel oil | 216,613 | 30,945 | 367,235 | 52,462 | 2,085,476 | 1,735,161 |
| Diesel and gas oil | 160,989 | 22,998 | 52,374 | 7,482 | 1,235,725 | 448,400 |
| Gasoline | 321,619 | 45,946 | ..... | ..... | 917,848 | 979,897 |
| Kerosene | 18,322 | 2,617 | 110,468 | 15,781 | 588,107 | 77,452 |
| Other unfinished oil | 156,531 | 22,362 | ..... | ..... | 156,531 | 3,420 |
| Coastwise-domestic: | | | | | | |
| Crude oil | 112,752 | 16,108 | 136,162 | 19,452 | 1,042,404 | 796,780 |
| Fuel oil | 206,918 | 29,560 | 192,241 | 27,463 | 2,060,826 | 1,347,902 |
| Diesel and gas oil | 141,606 | 20,229 | 176,021 | 25,146 | 393,486 | 261,212 |
| Gasoline | 197,585 | 28,226 | 156,629 | 22,376 | 1,788,210 | 2,013,884 |
| Kerosene | 11,479 | 1,640 | 5,801 | 829 | 25,314 | 55,389 |

**TANKER SHIPMENTS FROM SAN FRANCISCO TO DOMESTIC AND FOREIGN PORTS**

| | | | | | | |
|---|---|---|---|---|---|---|
| Intercoastal-domestic: | | | | | | |
| Diesel and gas oil | ..... | ..... | ..... | ..... | 75,895 | ..... |
| Gasoline | 25,778 | 3,683 | ..... | ..... | 25,778 | ..... |
| Lubricants | ..... | ..... | ..... | ..... | ..... | 1,779 |
| Foreign exports: | | | | | | |
| Crude oil | 267,808 | 38,258 | ..... | ..... | 656,297 | 272,450 |
| Fuel oil | ..... | ..... | ..... | ..... | 188,107 | 313,701 |
| Diesel and gas oil | 54,757 | 7,822 | ..... | ..... | 376,990 | 100,856 |
| Gasoline | 159,994 | 22,856 | ..... | ..... | 925,557 | 632,183 |
| Kerosene | 21,323 | 3,046 | ..... | ..... | 137,295 | 163,009 |
| Lubricants | 18,097 | 2,585 | ..... | ..... | 124,377 | 43,008 |
| Coastwise-domestic: | | | | | | |
| Fuel oil | 115,481 | 16,497 | 92,595 | 13,228 | 1,021,235 | 1,127,955 |
| Diesel and gas oil | 49,899 | 7,128 | ..... | ..... | 108,023 | 76,898 |
| Gasoline | 114,337 | 16,334 | 106,448 | 15,207 | 758,021 | 692,223 |
| Kerosene | 18,142 | 2,592 | ..... | ..... | 21,509 | 19,902 |

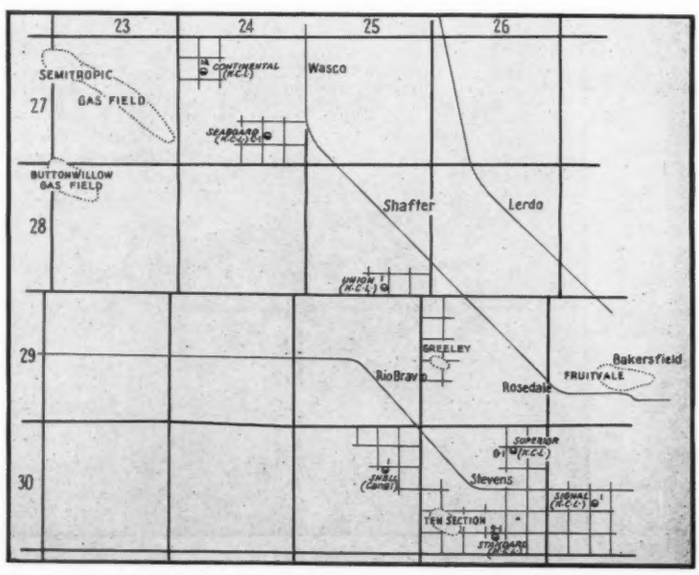
## Encouraging Wildcats

Two new wildcats entered the list of exploratory wells showing unusual promise during the past week. These were Associated Oil Co. No. 1 Murphy, near the old Sargent field in San Benito County, and Shell Oil Co. No. 1 McKinley in the Rosecrans district of Los Angeles Basin. Associated has cored 60 feet of Conglomerate and sandy shale, which shows good cut, and with the bottom of the hole at 6,382 feet the company is completing preparations to land pipe at approximately 6,320 feet. The test is in section 5-12-4. The promising formation cored is in basal Pliocene rocks, which have been found highly prolific throughout the state. The well is about 25 miles from tidewater at Monterey Bay, and for this reason pipe line transportation problems will be of minor importance. The location is close to the San Francisco Bay region. Associated Oil Co. has marine loading facilities at Monterey, which is the western terminal of the Monterey pipe line which extends southeastward to Kettleman Hills, Belridge and other San Joaquin Valley fields. Discovery of a new oil field in San Benito County would only involve the laying of approximately 50 miles of pipe line southwestward to Monterey tank farm.

Shell Oil Co. No. 1 McKinley, in section 20-3-13,, is bottomed at 7,750 feet, and the company thought enough of showings logged to land 7,450 feet of 6⅝-inch casing preliminary to making an early production test. Approximately 250 feet of alternating shale and oil sand has been cored and on a recent formation test the company recovered 418 feet of gas-cut mud and traces of oil. This wildcat will bear watching as it seems to have plenty of gas pressure. Other wildcats which have shown production possibilities of a commercial nature include General Petroleum's well in the Arvin district of Kern County; Reserve Oil & Gas Co.'s wells, in the Tejon Ranch district: Continental Oil Co. No. 1-A, Wasco area of Kern County; Associated Oil Co. No. 2 Avenal in Kings County and Western Gulf Oil Co.'s S. P. Land Co. wildcat in Fresno County.

## Athens—Rosecrans

Barnsdall Oil Co. is believed to have discovered a new deep zone in the Rosecrans field of Los Angeles Basin. The company cored approximately 300 feet of zone above the bottom of the hole, which is at 7,664 feet. The company is at present reaming out preparatory to landing a string of casing. The zone to be tested consists of oil sand and sandy shale, none of which appears to carry water. Completion of this well as a substantial producer will stimulate drilling operations in the Rosecrans field, which has been dormant for five years. Union and Barnsdall hold the most of the acreage. This zone, which is believed to be that originally encountered a number of years ago by E. J. Miley in his No. 6 Athens at 7,591 feet, is probably the lowermost member of the Pliocene. This indicates that deeper drilling in the Rosecrans field should normally be productive down to at least 10,000 feet with the top of the Miocene occurring at a depth estimated to be 8,000 feet. Barnsdall No. 10 O'Dea, the deep well scheduled for an early production test, does not indicate that the bottom of the possibly productive formation has been reached. The Miocene has been found exceptionally productive in other Los Angeles Basin fields and should prove productive in the Rosecrans field if and when wells are carried down deep enough.




*Union, Shell, Continental, Standard, Superior and Signal companies are drilling wildcats along the Buttonwillow-Ten Section trend, and along the semitropic Greeley line of Folding, in an effort to discover new fields*

## Wilmington

The Wilmington field of Los Angeles Basin, discovered by General Petroleum Corp., continues to show increased drilling from week to week and a further substantial gain is anticipated during the next 60 days. A number of operators have been delayed in starting drilling due to the inability of legislative officials to arrive at a conclusion with respect to the amount of acreage which it is advisable to open to the drill. The proximity of this field to tidewater has prompted officials to proceed cautiously in order to prevent as far as possible any development which might interfere with future growth of the Long Beach harbor. Within the past few days, Federal Judge A. F. St. Sure approved the leasing of 28 acres of potentially productive oil land in the Wilmington field to the Royalty Service Corp. The land in question is owned by the Consolidated Lumber Co., a subsidiary of the Charles Nelson Co., now under court jurisdiction during bankruptcy reorganization proceedings. The terms of the lease provide for a cash payment of $50,000 and an additional $50,000 to be paid out of oil and a royalty ranging from 10 to 25 per cent. The petition submitted to the court provided that drilling operations would begin within 30 days after execution of the lease.

The city of Los Angeles received $3,913.20 in oil royalties as a result of drilling operations upon municipally owned property in the Wilmington field. The royalty came from two wells completed by General Petroleum Corp. west of the Ford plant and one well completed in the classification yard by the Gauthier Oil Co. It is estimated that the Los Angeles harbor department has approximately 250 acres which should be found productive with proper development. The Harbor Commission failed to approve an application of the General Petroleum Corp. to drill a third well on municipally owned property until it had an opportunity to investigate the present curtailment program. The

commissioners were unable to understand why one of General Petroleum's wells with a daily potential of 2,000 bbls. was curtailed to 500 bbls. per day and another with a potential of 1,350 bbls. was reduced to 450 bbls. per day.

### Wilmington Completions

Two new wells were completed in the Wilmington field and at least 10 more may be in before the close of the current month. The comparatively shallow depth at which production is developed and the rapidity with which wells can be drilled is expected to push the field's daily potential production above 10,000 bbls. by the close of March and this figure may reach 20,000 bbls. before the close of April. Actual production, however, should be substantially lower.

Neither of the two wells completed in the Wilmington field during the past few days showed a kick comparable with that of General Petroleum's initial wells on the Terminal property, although they were satisfactory commercial producers. No. 2-W of George F. Getty, Inc. was brought in flowing 335 bbls. of 20.6 gravity oil and 300,000 feet of natural gas per day. It was bottomed at 3,550 feet and finished with an 8⅝-inch liner including 416 feet of perforated, and cemented through perforations at 3,134 feet. Production was still increasing late in the week and the well's output may reach a higher figure after it has been on production a few days longer. This is the second commercial producer finished in the Wilmington field by the Getty interests and preparations are already under way to begin drilling operations on two more wells. Wilmington Oil Development Co. has completed No. 1 Community flowing 318 bbls. of 19.8 gravity oil and 240,000 feet of natural gas per day from 3,551 feet after the hole had been finished with an 8⅝-inch combination string. The Union Pacific Railroad Co., which owns considerable acreage surrounding holdings of the General Petroleum Corp., is completing plans for aggressive development. The company is rotating ahead in its No. 1; is rigging up rotary drilling equipment in Nos. 2, 3 and 4, and has locations staked for Nos. 5, 6, 7 and 8. Royalty Service Corp., A. T. Jergins Trust and Bankline Oil Co. are other operators which have either already started aggressive drilling or are scheduled to begin work in the immediate future.

### El Segundo

Operators interested in the southern part of the El Segundo field of Los Angeles Basin were considerably encouraged within the past few days when Union Oil Co. hit the top of the pay and started preparations to run in and cement a water string in No. 1 Security, the most southerly drilling well in the field. Pay was topped at 7,625 feet, whereas this marker had previously been found in other wells around 7,250 feet. Top of the productive Conglomerate was logged at 7,659 feet and drilling operations suspended at 7,685 feet preparatory to running in the water string. Although this well is 200 feet deeper than preceding completions it has yielded the only true oil sand found in the field. Wells have been completed in the Conglomerate lying immediately on top of the basement, Schist.

### Ten Section-Greeley

Shell Oil Co. has recompleted No. 34-29 K. C. L. in the Ten Section field after plugging back from 8,477 feet to 8,243 feet and returned it to production flowing 2,724 bbls. of exceptionally clean 36.1 gravity oil and 2,700,000 feet of natural gas per day. Production originally showed an excessive cut due undoubtedly to bottom water. In addition to effectively excluding bottom water the company now knows where the bottom water may be expected in the future. Shell Oil Co. is drilling one other well in this field at present but has No. 23-30 K. C. L. rigged up and has staked location and is grading for No. 58-29 K. C. L. which will be drilled in section 29-30-29. Superior Oil Co. in its outpost in the Ten Section field is installing heavier equipment. This hole is down 10,409 feet and has a string of 7-inch cemented at 10,389 feet. No indications of importance have been discovered up to

*(Continued on Page 122)*

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**SHEAR-RELIEF VALVE**

# East and East Central Texas

By
L. E. BREDBERG

# NEW WORK FALLING OFF IN TALCO; TWO DEEP FAILURES

DALLAS, Tex., Mar. 7.—Completions in the Talco field in Titus and Franklin Counties continue to lead new locations in the field. This week four locations were reported and seven wells were placed on production. The Sulphur Bluff field in Hopkins County received four more producers this week, all flowing, whereas all of the wells completed in the Talco field were completed on pump.

Two wells previously completed on the east side of the Talco field showed water and were plugged back. These were Humble Oil & Refining Co. No. 1 Pan-American Life in the A. J. Fry Survey, which recently made a short southeastern extension, and the same company's No. 1 Belcher in the G. Belcher Survey. The latter was plugged back from 4,373 feet to 4,350 feet, and the former was bottomed at 4,332 feet. Wells in the Sulphur Bluff field are not making water, but many Talco field wells have had water troubles for months.

The J. Z. Werby No. 1 Williams, in the M.E.P. R.R. Survey, 2 miles east of the Talco field in Titus County, which is drilling in search of production in the Lower Trinity after failing to make a Paluxy sand producer, logged the base of the anhydrite at 5,695 feet, and is coring ahead below 5,750 feet. Its outcome will have a great bearing on deeper drilling in this field.

The allowable in the Talco field was raised on March 1 by the Railroad Commission, increasing the per well production from 85 to 95 bbls. There were 222 wells in the field on March 1. The Sulphur Bluff field allowable was raised from 1,125 bbls. to 2,375 bbls. per day. Talco based 50 per cent on potential and 50 per cent on acreage.

### Deep Abandonment

The eastern Rains County Trinity test of the Humble Oil & Refining Co. and Tide Water Associated Oil Co. on the L. J. Easter lands, in the R. Hotchkiss Survey, 4½ miles east of Emory, has been abandoned at 8,484 feet without any showings of oil or gas. Elevation is 438 feet. It topped the Paluxy at 6,079 feet and Glen Rose lime at 6,347 feet. The rig will be moved from this test to the Humble Oil & Refining Co.'s Trinity location on the northeast edge of the Van field in Van Zandt County.

### Another Deep Abandonment

The American Liberty Oil Co. and George Greer and others No. 1 J. A. Freeman, in the John Walling Survey, on the east edge of the Van field, Van Zandt County, was another deep failure, reported as dry at 4,799 feet, elevation 515 feet. It topped the Paluxy at 4,621 feet. This is the second Trinity sand test abandoned on the edge of the Van field, the Pure Oil Co. previously drilling such a failure on the northwest edge of the field.

### Probable Abandonment

The Superior Oil Co. No. 1 P. B. Paul, in the Mary Latham Survey, 4½ miles northeast of Quinlan in Hunt County, on the Mexia-Talco fault, is drilling within 200 feet of the contract depth of 6,500 feet. It had no showings of oil or gas, and has drilled through the Paluxy sand, pay member of the Trinity found in the Sulphur Bluff field to the northeast in Hopkins County and the Talco field farther northeast.

### Cayuga's Birthday

March 1 was the third birthday of the Cayuga field in northwestern Anderson and southwestern Henderson counties, in which all but two wells are producing from the Woodbine sand, those two wells producing distillate from the Trinity, the first two wells in the East Texas district to find such deep production. The field has produced over 4,500,000 bbls. of oil, the Tide Water Associated Oil Co. and Seaboard Oil Corp. holding the greater part of the acreage in the field and being the discoverers. This partnership is responsible for developing the field in an orderly manner. There are only 148 producing oil wells and 22 gassers in the field.

### Possible Deep Test

A block of some 7,000 acres has been assembled in northeastern Rusk County by C. C. Carnes and C. L. Dobbins, with intention to drill a deep test in search of the pay horizon found in the Rodessa field in Cass County to the northeast. Since the extension of that field in Cass County much leasing has been done to the southwest extending as far into Rusk County as the county seat, Henderson.

### East Texas Field

Out of 42 tests completed in the East Texas field this week, one was a dry hole and nine were completed on artificial lift.

There are now 22,280 oil wells in the field, nearly 19,250 of which are connected to casinghead gasoline plants. There are 20 such plants in the field. The Sinclair Refining Co. is connected to the largest number of wells, 3,335, the Humble Oil & Refining Co. (three plants) to 3,300 wells and Hanlon-Buchanan Gasoline Co. to 2,065 wells. The Humble Oil & Refining Co.'s 8-inch line from London to Houston is the only gasoline trunk line out of the field.

Crude oil in the East Texas field is again bringing premiums of from 5 to 7½ cents per barrel, with independent pipe line companies and purchasers vying with major purchasers for connections by offering the higher premium.

A new gathering system laid in the Joiner area, Rusk County, is known as the Small Pipe Line Co., and connects with nine wells of the Pansy Oil Co. on the Frederich, Minchew and Wooley leases. These wells have a daily allowable of 180 bbls. per day.

### Salt Water Return

Following the experiment of the group of major companies last year in returning salt water to the sand in a test well in the south end of the field, the Railroad Commission is planning on asking for evidence "as to the feasibility of returning the salt water produced in the East Texas field to the reservoir in order to attempt to reduce the drop in reservoir pressure," at its next general hearing in Austin.

Little has been said about the salt water disposal experiment, but it is known to have been successful, the sand taking the filtered water at the rate of several thousand barrels per day in the well drilled on the south end of the field, the water for the test coming from a water well in that end of the field.

## EAST TEXAS COMPLETIONS

### Gregg County

Amerada Petroleum Corp. No. 13 Hearne, 3,517-36 feet, 20 bbls. in 20 minutes. Arkansas Fuel Oil Co. No. 10-A Smith, 3,484-3,509 feet, 60 bbls. per hour. Atlantic Refining Co. No. 14-A Nicholson, 3,692-3,736 feet, 32 bbls. per hour; No. 4 Smith, 3,480-3,543 feet, 100 bbls. per hour. Gulf Oil Corp. No. 80 Judge, 3,487-3,503 feet, 62 bbls. per hour. T. D. Humphrey No. 1-A Branson, dry and abandoned, 3,651 feet. Shell Petroleum Corp. No. 16 Aiken, 3,586-3,612 feet, 60 bbls. per hour. Stanolind Oil & Gas Co. No. 15 Flemister, 3,558-3,633 feet, 59 bbls. per hour; No. 51-B McKinley, 3,575-3,615 feet, 59 bbls. per hour; No. 14 Albright, 3,506-3,607 feet, 56 bbls. per hour.

Tide Water Assoc. No. 14 W. E. Jones, 3,640-3,660 feet, 60 bbls. per hour. Barnsdall Oil Co. No. 15 Douglas, 3,656-57 feet, 28 bbls. per hour. Gralenor Oil Co. No. 14 King, 3,674-3,775 feet, 9 bbls. in 10 minutes. Gulf Oil Corp. No. 94 Hilburn, 3,507-27 feet, 45 bbls. per hour. H. & F. Corp. No. 11 Crews, 3,733-34 feet, 20 bbls. in two hours on pump. Humble Oil & Refining Co. No. 19 Thomas, 3,548-3,608 feet, 48 bbls. per hour. Sun Oil Co. No. 26 Hilburn-Lloyd, 3,666-68 feet, 40 bbls. per hour. Weaver-Crim Corp. No. 10 Peterson, 3,591-3,625 feet, 20 bbls. in 15 minutes.

### Rusk County

E. Constantine, Jr., No. 10 Tucker, total depth 3,666 feet, 20 bbls. in six hours on pump. Geier Bros. and others No. 4 Williamson, 3,626-27 feet, 30 bbls. in 20 minutes. Karona Oil Co. No. 7 Peterson, 3,626-27 feet, 20 bbls. in 20 minutes. Shell Petroleum Corp. No. 62 Watson, 3,571-3,628 feet, 37 bbls. in 30 minutes. Tide Water Assoc. No. 4-B Buntyn, 3,649-54 feet, 20 bbls. in 15 minutes. Davis & Hart No. 1-C Perry, 3,627-31 feet, 20 bbls. per hour. R. H. Dearing No. 12 Finney, 3,630-80 feet, 30 bbls. in three hours on pump. Gulf Oil Corp. No. 8-A Keeling, 3,765-3,815 feet, 40 bbls. per hour through three-fourths inch choke. Humble Oil & Refining Co. No. 21 Wheelis, 3,560-3,759 feet, 60 bbls. per hour.

Humble Oil & Refining Co. No. 22 Wheelis, 3,722-3,758 feet, 55 bbls. per hour. Hunt Oil Co. No. 15-B Ashby, 3,512-3,600 feet, 21 bbls. in three hours on pump; No. 12-B Hale, 3,614-67 feet, 20 bbls. in three hours on pump. P. G. Lake, Inc., No. 16 Reed, 3,535-48 feet, 31 bbls. in four hours on pump. Magnolia Petroleum Co. No. 16 Mason, 3,626-75 feet, 20 bbls. in four hours on pump. Stanolind Oil & Gas Co. No. 5-A Schuler, 3,628-97 feet, 20 bbls. in two hours on swab.

### Smith County

Sinclair Prairie Oil Co. No. 11 Patterson, 3,672-73 feet, 22 bbls. in 30 minutes. Sun Oil Co. No. 7 Seale, 3,732-33 feet, 20 bbls. per hour. Wheelis Oil Corp. No. 15 Smith, 3,694-95 feet, 60 bbls. per hour.

### Upshur County

Day & Co. No. 9 Victory, 3,642-43 feet, 20 bbls. per hour. Gilcrease Oil Co. No. 8 Free, 3,590-3,616 feet, 60 bbls. per hour. Manziel and others No. 1-B Gillespie, 3,695-96 feet, 30 bbls. per hour. P. H. Pewitt No. 3 Kirk, 3,747-52 feet, 20 bbls. per hour on pump. Southland United East & West Oil Co. No. 44 O'Bryne, 3,679-84 feet, 30 bbls. per hour. Tex-Field Oil Co. No. 2 Phillips, 3,720-22 feet, 20 bbls. per hour.

## EAST CENTRAL TEXAS COMPLETIONS

### Anderson County

Diamond Half Oil Co. No. 2 H. W. Barton, 4,077-81 feet, 78 bbls. in 24 hours through one-eighth inch choke.

### Angelina County

Summeral-Harris and others No. 1 M. L. Condra, top Queen City sand 1,472 feet, total depth 1,483 feet, pumping approximately 12 bbls. daily.

### Falls County

R. M. Hefflin No. 1 T. E. Battle, top Austin

1,325 feet, total depth 2,082 feet, dry and abandoned: 3 miles southwest of Marlin.

### Franklin County

L. F. Flannery No. 1-A M. A. Hedrick, 4,265 feet, 179 bbls. in 24 hours on pump.

### Henderson County

Roeser-Pendleton, Inc., No. 1 B. H. Wathen, 4,083-98 feet, 172 bbls. in 24 hours through one-eighth inch choke.

### Hopkins County

R. Goldston and others No. 4 Smith, 4,513-43 feet, 400 bbls. in 24 hours through quarter-inch choke. Hager-Luce and Russ No. 1 L. Long, 4,518 feet, 45 bbls. per hour. Jones Drilling Co. No. 4 Pierce, 4,434-90 feet, 65 bbls. per hour. Shell Petroleum Corp. No. 1 J. D. Reynolds, 4,541 feet, 324 bbls. in 16 hours.

### Titus County

Byrd-Frost, Inc., No. 1 C. M. Carr, 4,280 feet, 396 bbls. in 24 hours, on pump. Humble Oil & Refining Co. No. 5 L. Blackburn, 4,230-4,375 feet, 270 bbls. in 24 hours on pump; No. 27 King & Hughes, 4,373 feet, 270 bbls. in 24 hours on pump; No. 32 King & Hughes, 4,196-4,324 feet, 409 bbls. on pump. K. & A. Oil Co. No. 2-53 M. M. King, 4,253-4,313 feet, 18 bbls. per hour on swab. Rozel Oil Co. No. 2 T. L. Leake, 4,160-4,327 feet, 10 bbls. per hour on pump.

### Van Zandt County

American-Liberty Oil Co. and others No. 1 J. A. Freeman, top Paluxy 4,621 feet, top of Woodbine 3,119 feet; Georgetown 3,812 feet; dry and abandoned at 4,799 feet; elevation 515 feet; on east flank of Van field.

## Rocky Mountain Runs

*(Continued from Page 108)*

Dr. Peter Potter No. 2 All.-125, NW NE NE sec. 12-32n-6w. R.O.G.

R. C. Tarrant No. 1 Kirst, C NW SW sec. 18-34n-5w. Drlg. 710 ft.; Colo. 430 ft.; 10¾-in. 470 ft.

#### Petroleum County

O. B. Canfield No. 1 Govt., CEL SE NE sec. 21-17-24e. (Black Butte); drlg. 750 ft.

H. C. Rowland No. 1 Kalispel, NE NE SE sec. 35-14n-25e. Drlg. 711 ft.

#### Park County

Ben W. Ryan et al No. 1 Burgess, SE SW NW sec. 28-2s-11e. S.D. 610 ft.

#### Phillips County

R. G. Parrent No. 1 Hartman, C NW SE sec. 12-24n-25e. S.D. 862 ft.

City of Malta No. 1, C SE SE sec. 18-30n-30e. T.D. 1,120 ft.; rebldg. rig burned down.

### Toole County

All drilling wells in the Kevin-Sunburst field continued shut down on account of the weather.

## UTAH

### Grand County

Another test is to be drilled this spring on the Cane Creek dome, one of the series of Colorado River structures which had a big wildcat play 10 years ago. The new well is the Cane Creek Oil Co. No. 2 Shaffer, NW NE section 6-27s-21e, only 200 feet from the discovery well which started the previous drilling campaign. Crew went in several weeks ago, but on account of the freeze they were unable to make much progress and are now waiting for word of the thaw to return.

Exploration and geological work in the area was very unusual on account of the wild nature of the country, the canyons and walls, bad water, lack of roads and other difficulties. H. W. C. Prommel, consulting geologist of Denver, is credited with the first exploration work in which a structure was mapped and a test actually drilled. Evidences of a large pool are plentiful, but where, and how to find it is the problem. Prommel's theory is that drilling should follow the fissure in the salt beds through which the oil comes until the pool is located.

Utah Southern Oil Co. No. 1 Hyde, SE NW NW sec. 33-32s-22e. T.D. 6,363 ft. in upper Hermosa; prep. to resume March 1.

Columbia Crude Corp. No. 1 Rath, NW SW SW sec. 12-35-20e. T.D. 2,138 ft.; recmtg. at 2,045 ft.

## NEBRASKA

### Lincoln County

Smith & Wright No. 1 Hansen, C SW NW sec. 24-15n-31w. Res. at 800 ft. in gr. L. after recovering bit.

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THE LAYNE WIRE WRAPPED SCREEN

*North Louisiana, Arkansas*

# RODESSA FIELD IS EXTENDED CLOSE TO ARKANSAS BORDER

By MITCHELL TUCKER

SHREVEPORT, La., Mar. 8.—The extension of the North Rodessa area to within one-fourth mile of the Arkansas state line, and proving of oil production on the Lodi structure 6 miles southwest of Rodessa production constituted the main developments of the week.

J. Edward Jones No. 11-B Sharp, 297 feet north and 151 feet west of center section 4-23-16, northernmost well in the North Rodessa field was completed, flowing 580 bbls. in 24 hours on initial test through casing perforated at 5,970-6,000 feet and 5,965-6,010 feet, opposite the saturated Mitchell and Gloyd sands. The completion pushes production one location north of the 1¾-mile extension producer completed by the same operators about 60 days ago. In view of the apparent difference in sand characteristics and gravity (this crude being 40.7 A.P.I.) the separate structure north of the fault parallel to the main Rodessa feature seems more definitely established, and a rather active development in this vicinity is expected.

Standard Oil Co. No. 1 Emma J. Parker, NE SE NW section 9-23-16, about midway between this northern extension and Rodessa production, topped saturated sand 5,953-5,966 feet and has set 7-inch casing preparatory to testing attractive showings, total depth 6,013 feet.

R. W. Norton is now coring below 8,425 feet in his deep exploratory test south of the Rodessa surface fault, known as the No. 1 Payne, SE SE section 27-23-16.

Marr and Perkins have announced intention to deepen No. 5 Hunter, NW SW section 13-23-16, now a producer from the Lower Glen Rose, to the Travis Peak horizon for a thorough exploration of the section. This will be the first Rodessa producer to be deepened, and being situated favorably on the Lower Glen Rose structure, is expected to top the Travis Peak near 7,000 feet and afford a representative test.

## Rodessa Salt Water

Recent survey of wells making salt water in the Rodessa field showed 79 on the Louisiana side and 12 in the Cass County side. The highest quantity for Louisiana wells was 95 per cent, while the Texas wells exhibited maximum of 65 per cent. Gas-oil ratio tests are now being made of every producing well in Cass County, in conformance with Texas Railway Commission ruling. First bottom-hole pressure tests of the periodical survey are indicating that the pressure is being well maintained under the present manner of proration.

## Marion County, Texas

After a successful squeeze job on the upper gas bearing formation in the Jefferson discovery well, Holcomb & Thomason, Flesh & Hootkins No. 1 Henderson, R. Bennington Survey, operators went back to the hole to swab and test the lower oil section exposed through perforated casing 5,974-84 feet. Well is being swabbed and makes occassional flows by heads, averaging from 7 to 15 bbls. hourly. Hole is now thought to be clean, and no salt water is present.

Arkansas-Louisiana Gas Co. No. 1 W. S. Ford, Charles Grayson Survey, important Lodi test about midway between the Jefferson discovery and southwest outpost Rodessa production, was coming in apparently as a good oil well as the week closed. Casing was reported to have been perforated 6,100-6,110 feet opposite the saturated Gloyd. After filling up about 1,000 feet over night, swab brought almost all oil, second run of swab yielded about 60 per cent oil and some wash water; and oil percentages continued to decrease until the majority of wash water had been recovered. Later swabbing in the day was producing from 10 to 15 bbls. of oil hourly, with wash water rapidly decreasing. Additional perforating may be done in effort to increase oil production. No evidence of salt water has been noted.

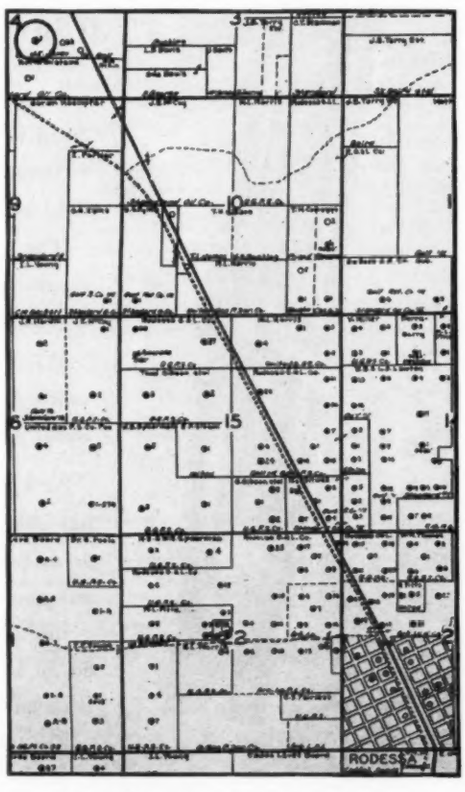
Difference of opinion exists as to whether or not this well is situated upon a separate structure than Rodessa. Wide differences in fault displacement at Rodessa, Lodi and Jefferson indicate a series of echelon faults along a great Rodessa fault system, while others are of the opinion that the Rodessa fault itself is some 40 miles long and all production is adjacent to the same feature. The Lodi discovery lies considerably to the north of Rodessa and Jefferson production, and additional development may prove a parallel fault field similar to the present North Rodessa development.

At any rate, informed oil men are of the opinion that the Arkansas-Louisiana Gas Co. has opened a wide territory between Rodessa and Jefferson to probable oil production.

Hearings have been set by Texas Railroad Commission on applications for 15 permits to drill wells in the Jefferson area, nine of which are to be along the Jefferson & Northwestern railroad right of way and six in the Jefferson townsite.

## Rodessa Completions
### Cass County

Magnolia Petroleum Co. No. 1 Allday, P. Evans Survey, flowed 563 bbls. in 24 hours on initial test, tubing and casing pressure 450 pounds, one-quarter inch tubing choke, total depth 5,920 feet, plugged back from 6,036 feet.




*J. Edward Jones No. 1-B Sharp, northernmost well in the North Rodessa field, and about one-quarter mile from the Arkansas state line. Active drilling between this point and Rodessa field is expected.—(Globe Map Co., Shreveport)*

Ohio Oil Co. No. 8 R. P. Willis, S.F.I.W. No. 1,263 Survey, flowed 402 bbls. in 24 hours, one-quarter inch tubing choke, total depth 5,982 feet.

Ohio Oil Co. No. 14 R. P. Willis, S.F.I.W. No. 1,263 Survey, flowed 456 bbls. in 24 hours, one-quarter inch tubing choke, tubing pressure 725 pounds, casing pressure 800 pounds, total depth 5,944 feet.

Phillips Petroleum Co. No. 6 Farrier, William R. Myers Survey, flowed 247 bbls. in 15 hours through one-quarter inch tubing choke, total depth 6,087 feet, plugged back from 6,120 feet.

The Texas Co. No. 5 W. M. Hall, Alex Archer Survey, flowed 59 bbls. per hour through one-half inch tubing choke, total depth 6,060 feet.

United Production Co. No. 3 J. A. Bewley, H. Holbert Survey, flowed 21 bbls. hourly through three-eighths inch tubing choke, total depth 5,968 feet.

United Production Co. No. 5-A Tyson, J. H. Rives Survey, flowed 22 bbls. per hour through one-quarter inch tubing choke, total depth 6,074 feet.

United Production Co. No. 1 S. B. Willis, Wilson Robinson Survey, flowed 45 bbls. hourly through three-eighth inch tubing choke, total depth 6,018 feet.

United Production Co. No. 3 S. B. Willis, Wilson Robinson Survey, flowed 35 bbls. hourly through three-eighth inch tubing choke, total depth 6,040 feet.

## Estimated Daily Production

Estimated daily gross production of all companies for the week ending March 6, follows:

### NORTH LOUISIANA

| | |
|---|---|
| Bellevue | 770 |
| Caddo light | 3,815 |
| Caddo heavy | 2,420 |
| Converse | 810 |
| Cotton Valley heavy | 270 |
| Cotton Valley light | 540 |
| De Soto and Red River | 1,385 |
| Elm Grove | 360 |
| Haynesville | 3,480 |
| Holly | 145 |
| Homer | 2,570 |
| Pleasant Hill | 135 |
| Rodessa | 50,310 |
| Sarepta-Carterville | 335 |
| Sligo | 260 |
| Urania | 2,810 |
| Zwolle | 750 |
| Total | 71,065 |

### SOUTH ARKANSAS

| | |
|---|---|
| Champagnolle | 1,620 |
| El Dorado | 2,010 |
| Lisbon | 285 |
| Miller County | 565 |
| Nevada | 725 |
| Smackover light | 2,120 |
| Smackover heavy | 16,890 |
| Stephens | 600 |
| Troy | 900 |
| Urbana | 1,445 |
| Total | 27,162 |

Texas side of Rodessa field, 39,122 bbls. daily.

## Bossier Parish

United Gas Public Service Co. is completing its third oil producer on the southwestern flank of the Sligo gas field, in Bossier Parish, No. 1-H A. C. Skannal, SW NE NE section 26-17-12. On preliminary tests the well showed about 200 bbls. daily through 7/64-inch tubing choke. Operations are shut down awaiting tanks.

## Bienville Parish

After Seaboard Oil Co. No. 1 McGee, section 3-16-6, opened the Travis Peak to gas and dis-

tillate production in the Bearcreek area, 7,323-7,462 feet, estimated at 70,000,000 feet, in order to test showings above this depth, a Baker cement shoe was placed at 7,315 feet, and 7-inch pipe perforated at 6,665-6,695 feet with 50 shots, where about 5,000,000 feet of gas showed through one-quarter inch tubing choke, tubing pressure 2,100 pounds, casing pressure 1,700 pounds. Testing continues at this point.

### Caddo Parish

Gulf Refining Co. No. 1 E. P. Hatcher, section 11-17-15, deep exploratory test on Cross Lake, just south of Shreveport, is now making a Schlumberger electrical survey of porous sands drilled from 8,646 feet to present depth of 8,994 feet.

R. E. Dalton No. 1 Noel Estate, SW SE SE section 4-21-14, has been abandoned at 1,050 feet after expiration of lease.

Stanolind Oil & Gas Co. No. 116 Dillon, SE SE section 14-21-15, was a routine completion in Pine Island field, pumping 10 bbls. per day, total depth 1,695 feet.

### Claiborne Parish

Ray P. Oden No. 1 W. H. Patton, SW SE SE section 36-21-5w, is drilling at 4,140 feet as the deepest of four wells to test the new Lisbon oil field east of Homer, La.

Max Hirsch and others No. 1 C. O. Ferguson, SW section 29-22-6w, wildcat test northeast of Homer, is now below its contract depth of 6,100 feet, and it is probable that arrangements will be made to carry this test to the Lower Marine beds of the Trinity. Attractive showings of gas were logged throughout the Pettitt lime, accompanied at places with pin spots of oil. The Travis Peak was topped at 5,930 feet, and coring is now progressing below 6,130 feet.

### Webster Parish

United Gas No. 2 Davis, NW section 23-21-10, Cotton Valley field, blew out with distillate and oil while coring at 8,524-31 feet. After killing the well, coring was resumed, now at 8,531 feet, for a thorough exploration of the section before testing.

Standard Oil Co. in No. 1 E. Fudicker, NW section 2-17n-9w, which last week discovered gas and distillate production in the top sand member of Travis Peak, has had 7-inch casing set at 5,790 feet and is preparing to complete the well as a gasser in the Lower Glen Rose where more prolific production was obtained. This is the same horizon from which the three other wells at Sibley were completed.

## ARKANSAS

### Claiborne Parish

J. R. Lockhart No. 1 Ida Robertson, SE section 36-10-11w, was dry and abandoned at total depth 3,497 feet.

### Nevada County

Three new locations were staked in the recently discovered Troy field, and Benedum & Trees completed No. 6 Grove, SW NE SW section 10-14-20, at a total depth of 1,253 feet, pumping 50 bbls. daily.

Berry Asphalt Co. No. 1 J. Haynie, NE NE SE section 6-14-20, northwest of Troy production, topped Nacatoch sand where gas was expected at 1,172 feet, and drill stem test 1,172-76 feet showed salt water only. Hole has been abandoned, total depth 1,206 feet.

### Ouachita County

Lion Oil Refining Co. No. 1 Blanche Levey, C W half SW SW section 21-15-15, deep Permian lime test northwest of Snowhill, proved disappointing last week after obtaining salt water only in Oolitic lime drill stem test 5,242-55 feet. Hole has been abandoned at total depth 5,349 feet.

### EAST TEXAS (Border Counties)

### Bowie County

Ferguson & Hill No. 1 Breckenridge, N. Dycas Survey, took drill stem test in Blossom sand 2,083-88 feet, which showed large amount of salt water and showings of oil. Drilling continues at about 2,200 feet.

Sutton-Hawkins No. 1 McDuffey, John Ball Survey, is drilling at 3,690 feet in this wildcat territory as a proposed Lower Glen Rose test.

### Harrison County

A 6,500-foot wildcat test on the northwestern flank of the Sabine uplift for thorough exploration of Lower Glen Rose possibilities seems assured as arrangements are being completed to drill on the Bailey and Martin lands 10 miles south of Marshall. The area, heretofore unexplored for deep production, has been the scene of considerable geological exploration work during recent months.

Kennedy and Bachelor, in No. 1 Lane and Greer, J. L. Baker Survey, west of Latex and northwest of the Bridwell test which had good oil showings, have set casing in the top of Tokio sand, and are preparing to test, total depth 2,336 feet.

### Panola County

Magnolia Petroleum Co. has staked location for the fourth well in the recently discovered Panola gas field about 1 mile east of Carthage. The new location will be known as No. 2 E. A. Hull, Thomas Applewhite Survey.

## ALABAMA

### Washington County

Arkansas Fuel Oil Co. abandoned No. 1 McClure Pine Co., section 4-5n-2w, at a total depth of 6,112 feet, after topping chalk at 4,047 feet and finding neither saturation nor porosity below.

### Choctaw County

Joe Modesett and others No. 1 McCarney, SE SW SW section 20-9n-2w, derrick.

## FLORIDA

### Lake County

Oil Development Co. of Florida No. 2 Gulf Exploration Co., section 17-24s-25e, drilling 5,940 feet.

### Nassau County

St. Mary's Rives Oil Corp. No. 1 Hilliard Turp. Co., section 19-4n-24e, drilling 1,308 feet.

## MISSISSIPPI

### Lafayette County

W. L. Stewart and others No. 1 Russell, section 9-10s-1w, was plugged and abandoned as dry, total depth 2,467 feet in Paleozoic rock, topped 1,865 feet.

### Lauderdale County

Bob Dalton and others No. 1 Bounds, section 34-7n-15e, has been plugged and abandoned, total depth 1,600 feet in Cretaceous chalk, topped 1,525 feet .

### Hinds County

Robert Chichester and others No. 1 Gerwin, section 12-5n-4w, has been abandoned at 3,012 feet as a dry hole.

State of Mississippi No. 2 fee, section 25-6n-1e, deep test for oil in Jackson gas field, is drilling at 4,711 feet in hard sandy shale.

### Amite County

On a block of approximately 30,000 acres rigging up operations have begun by North Central Texas Oil Corp. on the J. P. Wemple No. 1 Southern Forest Land Co., SW SW section 29-4n-2e. Test is situated about 6 miles north of Gloster, and will test possibilities of the "Conroe trend" in that direction. Original objective is the Cockfield formation, which is expected near 5,200 feet.

### Lamar County

Sun Oil Co. is rigging up for its second test of their block, latest test to be SE SW SW section 28-4n-15w and known as their No. 1 Tally.

## Southwest Texas Fields

*(Continued from Page 111)*

Another important wildcat test, Barnsdall Oil Co. No. 2 Edwards, offsetting the No. 1 in the Lamar area of Aransas County, is drilling below 3,600 feet. No. 1, bottomed at 7,996 feet, blew out and cratered last month. It later made some oil through the drill stem, but pressures declined and it went to salt water.

Other interesting areas in Southwest Texas are the Lower Rio Grande Valley and the Fault Line Zone of Caldwell and Guadalupe counties, where a revival of activity in the latter county, accompanying recent large well completions, has resulted in the influx of many rigs drilling for independent operators. The bulk of the drilling is in the Webster-Branyon and Darst Creek fields. The Lower Rio Grande Valley continues to attract more attention, as deep tests in wildcat and field areas of Hidalgo, Willacy and Cameron counties begin drilling, in what is presaged to be a long-time drilling campaign.

## Eastern Fields

*(Continued from Page 96)*

In Burnings Springs district, Wirt County, this operator is drilling at 4,265 feet in a deep test on the Walter Hoffman 53-acre tract. In Grant district, Hancock County, John T. Galey is drilling at 1,700 feet in a test on the Rachael Talbott farm, which is scheduled for the Oriskany sand.

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# FOUR WILDCATS LOCATED IN THREE NORTHERN COUNTIES

By L. E. BREDBERG

FORT WORTH, Tex., Mar. 8.—The most important news coming from the West Texas district this week was the announcement of four new wildcats to be drilled in widely scattered parts of three of the northern tier of counties in the district. Magnolia Petroleum Co. is preparing to drill one of these, the Texas Co. another, E. L. Wilson and others the third, and Bond and Harrison the fourth.

The Magnolia Petroleum Co. made a location on lands of Mrs. M. E. Taylor, NE cor. section 201, Block D, John H. Gibson Survey, about 16 miles north of the Bennett discovery in Yoakum County, and in the eastern part of that county. It is on a block of 4,100 acres; is scheduled to be drilled to 5,400 feet, and is now preparing to get under way as materials are being moved in on location. The location is about half way between the Cochran and Yoakum counties discoveries.

One of two tests scheduled for Cochran County is to be drilled by the Texas Co. on a block of some 7,000 acres in the northeast quarter of Cochran County. The block is in Leagues Nos. 130 and 131, Carson County School Lands, east of Continental Oil Co. No. 1 Slaughter in League 130, which was drilled several years ago and logged good oil showings, but failed to make a producer. Two other tests drilled several years ago in this area, by Continental Oil Co. and Humble Oil & Refining Co., also proved dry holes. The Texas Co. is to start its test within 90 days.

The other Cochran County test will be drilled by Bond & Harrison, and is located in Labour 1, League 85, Gregg County School Lands, near the center of an 8,000-acre block, 10 miles north of the Duggan discovery in the southeast corner of the county.

In the southeast corner of Bailey County, about 35 miles north of the Cochran County discovery, E. L. Wilson and others of Dallas, will drill in the northeast corner of Labour 4, Abner Taylor League 700, and will spud by May 1. The associates have some 14,000 acres in a block in this area.

### Gaines Wildcat

A scheduled wildcat test for the western part of Gaines County is to be drilled by Tom Sloan and others in section 425, Block 6, C.C.S.D.&R.G.N.G. Survey, about 4 miles south of a dry hole drilled in section 420, same block and survey. Contract is expected to call for a 5,500-foot hole.

### Water in Yoakum Pool

The Texas Pacific Coal & Oil Co. No. 1 R. Bennett, located in section 678, Block D, John H. Gibson Survey, Yoakum County, about one-half mile northwest of the Bennett pool's discovery well, has been deepening in hopes of picking up better saturation in the lime and making a heavier producer than when bottomed at 5,236 feet. It flowed 570 bbls. in 24 hours after acidizing. But at 5,305 feet it ran into sulfur water and has been plugged back to 5,297 feet to test for water shutoff.

### Two Pecos Wildcats

Two wildcat locations were reported this week for the Masterson area in Pecos County, Arnold Kirk of Fort Stockton to drill on the Mrs. Bertha Yong lands in section 49, Block 10, H.&G.N. Survey, a quarter of a mile from a previous test in section 46 which produced considerable oil, but which was later abandoned. It is on acreage lying in the trend between the Masterson and Pecos Valley pool. Richard Cowan of Fort Worth and Tom L. Beauchamp of Tyler have an interest in the block on which Monte Warner arranged the sinking of this test.

The other wildcat in the area is to be drilled by Adams and Black on the Masterson lands, in section 71, Block 10, H.&G.N. Survey, 5 miles west of the Masterson pool and a mile west of a small producer recently plugged at 1,829 feet, drilled by Culbertson & Irwin.

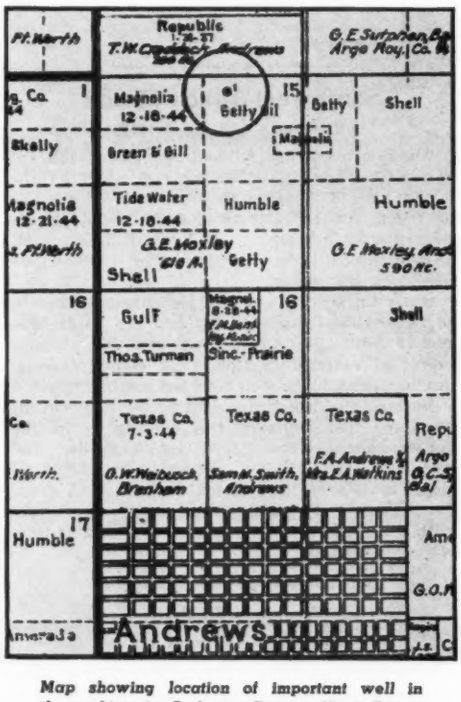
### Crane Extension

The Old McCamey field in Upton County and the Cowden area a short distance to the north, lying on the Crane-Upton County line, have been busy scenes during the past year or two, a number of outpost tests resulting in extensions to various parts of the pools, proving up considerable more producing territory in these old producing areas.

This week the W. E. Production Co. and Wilbanks No. 1 Hughes, located in the southwest corner of section 86, Block X, C.C.S.D. & R.G.N.G. Survey, extended the Cowden pool in Crane County about another mile to the southwest. It topped the lime pay at 2,424 feet, logged an increase at 2,454 feet and was bottomed at 2,461 feet to drill plug and acidize. It looks good for about 50 bbls. naturally, with acid expecting to raise its potential considerably.

### Crane County Failures

Three wells drilled on the western side of the Hughes area in southern Crane County by John D. Hertz and others have proven dry. No. 1-A Hughes, in section 101, B. L. Frost Survey, was given up as a failure at 2,406 feet in lime after striking sulfur water. The other, No. 1-B Hughes, in the same section and survey, was plugged back from a total depth of 2,129 feet to 2,121 feet, and acidized, but it still shows sulfur water which looks discouraging.




*Map showing location of important well in the making in Andrews County, West Texas. It is 3 miles southwest of the Means field and 4 miles east of the Deep Rock area.—(Zingery Oil Map Co., Fort Worth)*

These tests are on the western side of production. The third test, 1½ miles west of the most western production in the McCamey area, was No. 1-C Hughes, in section 2, H.&.O.B. Survey. It filled with sulfur water at 2,371 feet and was abandoned. James and Elliott Roosevelt were interested in these three failures.

### New Jones Pool

Ungren & Frazier of Abilene appear to have a new pool in the making about 3 miles due north of the Guitar pool and 3½ miles northeast of the Hawley field in Jones County. It appeared as a small producer in the Upper Hope sand from 2,220-31 feet, but this showing was passed up in the hope of picking up a better pay in a lower horizon. At 2,462 feet it logged what is considered Swastika lime and was drilled 5 feet in before shutting down to acidize. If it does not prove a producer from this streak it will probably be plugged back to the upper horizon and tested.

Ungren & Frazier hold 1,000 acres surrounding the test and the Shaheen Oil Co. 600 acres, Fain-McGaha Oil Corp. and Humble Oil & Refining Co. also have acreage in the vicinity of the wildcat. A dry hole was drilled by the Mid-Tex Oil Co. recently about midway between this test and the Guitar pool. The test is only 11 feet from the Humble Pipe Line Co.'s trunk line from the Panhandle south.

### Taylor Wildcats

William Hix & Co. have staked location for a 4,500-foot wildcat test 5 miles east of Tuscola in Taylor County, same falling on the A. H. Spencer lands, in section 413 A. McBerth Survey. W. R. Ely of Abilene blocked the acreage in the area.

The Golden Petroleum Co. of San Angelo is moving rig and materials from the McMillan pool, Runnels County, where it has production, to location on the C. B. Braune farm, in section 15, League 144, Guadalupe County School Lands Survey, 3 miles west of View, in the south central part of Taylor County. It is projected for 2,500 feet.

### Mason Pool

In the Mason pool in northwestern Loving County, recently opened by Mason Oil Co. on the Mrs. M. Kyle ranch, in section 20, Block 55, Township 1, T.&P. Survey, Stanolind Oil & Gas Co., which purchased offset and other acreage near the discovery, has staked location south of the discovery, in the same section. The Mason Oil Co. is drilling a test west of the discovery.

About 2½ miles of 4-inch pipe line has been laid from the first well as a part of a 10-mile line which will end at the point where the Paso-Tex Pipe Line Co.'s 8-inch line from Winkler County to El Paso, goes under the A. T. & S. F. Railroad. Whether or not the Paso-Tex Pipe Line Co. will connect with this short line and take oil from the pool, or whether a loading rack will be erected on the railroad, from which oil will be shipped out by tankcar, is not known. The pipe line connection would result in considerable development in the new pool this year.

## WEST CENTRAL AND NORTH CENTRAL TEXAS

The Hamilton County wildcat test of the Seaboard Oil Corp. on fee lands in the A. C. Grimes Survey, 10 miles north of Huntington, has been plugged back from a total depth of 4,348 feet to shut off water and acidize at 4,146-69 feet where it had a good showing of oil. This has been an

interesting test, topping the Ellenberger lime at 4,144 feet.

### Leasing

As a result of the Bryson field's development in Jack County, which has led to much wildcatting being started and planned throughout the county, leasing of blocks and acreage has spread south to the adjacent county of Parker. One block of 12,000 acres has been taken around Springtown by Ed Williams and another block of 10,000 acres in the northwestern part of Parker and northeastern part of Palo Pinto counties has been assembled by Paul Garrett of Dallas and others.

### Foard Extension

The Johnson field in western Foard County, owned and developed by the Texas Co., was extended nearly one-half mile east this week when the company's No. 11 J. H. Johnson, located in the NW quarter section 37, Block L, S.P.R.R. Survey, flowed at the rate of 100 bbls. per day at total depth of 3,662½ feet. It topped the Canyon lime, the pay horizon in the field, at 3,654 feet. It will be treated with acid. High gravity oil is produced in this pool. The wells have large gas production, the company processing the gas in a casinghead plant in the field and selling the residue gas to an electric generating station at Quanah.

### Purchase

The Seaboard Oil Corp. is branching out into the northern part of Texas and in the Panhandle and is purchasing producing properties in both areas. The company is reported to have just purchased a 64-acre lease in the C.M.R.R. Survey, northeast of Electra in Wichita County. This lease contains 12 producing wells, producing from the 840- and 1,532-foot sands, and having a daily gross production of 82 bbls. The company was also reported to have purchased 400 acres in sections 16 and 17 in Block 47, H.&T.C. Survey, and a narrow strip in section 33, Block Z, E.L.R.R. Survey, near a recent extension well in the Dolomite producing area of Hutchinson County.

## PANHANDLE COMPLETIONS

### Carson County

Sinclair Prairie Oil Co. No. 5 Cooper, 2,970-3,100 feet, shot, 635 bbls. on pump. Texas Co. No. 3 Cooper, 3,085-3,163 feet, shot, 416 bbls. on pump.

### Gray County

Cosmos Oil Co. No. 3 Catlin, 3,105-3,227 feet, shot, 665 bbls. on pump.

### Hutchinson County

Devore and Fischer No. 1 Starnes, 3,040-3,115 feet, shot, 595 bbls. on pump. Gulf Oil Corp. No. 66 Dial, 3,015-3,129 feet, shot, 354 bbls. on pump; No. 67 Dial, 3,005-3,120 feet, shot, 503 bbls. on pump. Rogers and others No. 1 Moore-Langdon, 3,069-3,130 feet, shot, 412 bbls. on pump.

### Moore County

Magnolia Petroleum Co. No. 3 Britain, 3,389-3,415 feet, acidized, 100 bbls. on pump.

### Wheeler County

Dyck Oil Co. No. 5 Sitter, 2,390-2,542 feet, 36 bbls. on pump. Johnson and others No. 1 Stauffer, 1,720-45 feet, 20,000,000 feet of gas.

## CENTRAL TEXAS COMPLETIONS

### Callahan County

L. A. Warren No. 1 Hatchett B, 815 feet, dry and abandoned.

### Coleman County

Anzac Oil Corp. and others No. 1-H Morris, sand 2,217-21 feet, 1,500,000 feet gas.

### Taylor County

Superior Oil & Gas Co. No. 1 Cook heirs, southeast corner of county, total depth 4,270 feet, dry and abandoned.

### Shackleford County

Albany Oil Co. and Freeman No. 2 Hastings, total depth 1,612, dry and abandoned. W. E. Butler No. 11 Morris, 1,592-1,608 feet, 250 bbls. Charter Oil Co. No. 4 Herrington, total depth 1,638 feet, dry and abandoned. Danciger & Pearson No. 1 Swenson, total depth 1,663 feet, dry and abandoned. Hoffman & Page No. 25 Morris, total depth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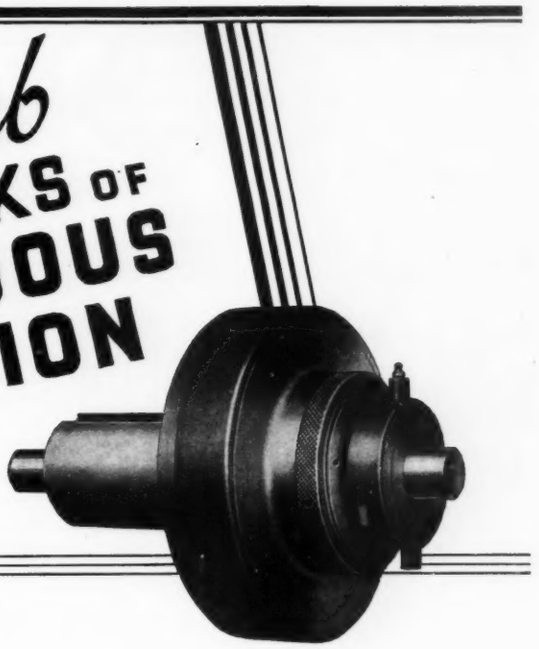

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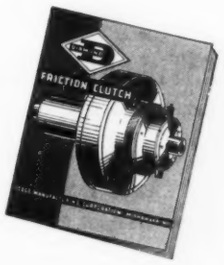


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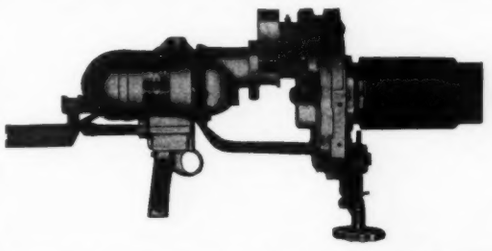

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ALWAYS RENEW YOUR SUBSCRIPTION PROMPTLY


1,604 feet, dry and abandoned. Livingston & Wellman No. 3 Morris A, total depth 1,750 feet, dry and abandoned. Reliance Oil & Royalty Co. No. 15 Davis, total depth 1,843 feet, dry and abandoned. Roeser & Pendleton No. 20 Dawson & Conway, 1,498-1,515 feet, 120 bbls. oil and 2,000,000 feet gas.

### Throckmorton County

Canyon Oil & Gas Co. No. 5 Lily, total depth 345 feet, dry and abandoned. Frazier Moss, Trust, No. 1 Daws, total depth 642 feet, dry and abandoned.

## NORTH TEXAS COMPLETIONS

### Archer County

L. T. Burns No. 5 J. S. Bridwell A, 920 feet, dry; No. 1 D. B. Ikard B, 1,080 feet, dry. Fresno Oil Co. No. 21 Prideaux, 645-68 feet, 7 bbls. Nancy McChesney No. 1 Benson, 838-47, 7 bbls. Rathke Oil Co. No. 4 Meade, 1,427-45 feet, 25 bbls. J. G. Steele No. 1 Brown, 1,507 feet, dry. Solo Oil Co. No. 1 Wilson, 2,328 feet, dry.

Golding & Cochran No. 12 Brown, 1,182-91 feet, 156 bbls. Petroleum Production Co. No. 1 Andrews, 993-1,003 feet, 8 bbls. Rathke Oil Co. No. 5 Meade, 1,435-41 feet, 5 bbls. Stump No. 1 Wilson B, 3,801 feet, dry.

### Clay County

George T. Morris No. 1 Boddy, 1,518 feet, dry.

### Cooke County

Anderson & Kerr No. 4 Bruhlmeyer, 2,006-23 feet, 70 bbls. Mack Oil Co. No. 2 Felderhoff, 742 feet, dry. F. W. Merrick, Inc., No. 33 A. Knabe, 788-834 feet, 20 bbls. Schmerhorn Oil Co. No. 7 Hess, 775-880 feet, 24 bbls.

Anderson & Kerr No. 5 Rose, 1,944-66 feet, 110 bbls. P. B. Berry No. 3 Owen, 1,963 feet, dry. W. D. Compton No. 1 Tucker, 1,215 feet, dry. B. H. Hilburn No. 1 Harris, 1,852 feet, dry. Mack Oil Co. No. 3 Felderhoff, 680-89 feet, 10 bbls. Schermerhorn Oil Co. No. 8 Hess, 780-880 feet, 25 bbls. Whitfield and others No. 6 Owen, 1,940-60 feet, 60 bbls.

### Denton County

C. B. Minnich No. 1 Cable, 290 feet, temporarily abandoned. Mullens & Weil No. 1 Maxwell, 1,258 feet, dry.

### Jack County

F. W. Bennett No. 1 Nichols, 3,000-20 feet, 175 bbls. G. W. Buckner No. 2 Smith, 362 feet, dry. Burrous & Hall No. 1 Smith, 490 feet, dry. Cato Oil Co. No. 2 Bryson, 2,985-3,059 feet, 750 bbls.; No. 2 Raley A, 2,968-3,028 feet, 500 bbls. Cochburn & Boaz No. 1 Clayton, 3,150 feet, dry. Gwynn & Overby No. 6 Rankin, 2,953-3,049 feet, 50 bbls. Hill & Hill No. 1 Jones, 2,966-3,083 feet, 460 bbls; No. 2 Jones, 3,012-45 feet, 460 bbls.; No. 4 Jones, 2,977-3,120 feet, 250 bbls. T. D. Humphrey No. 3 Birdwell, 2,940-3,080 feet, 200 bbls. H. S. Moss and others No. 3 Lowe, 3,167 feet, dry. O. J. Perrin No. 4 Clayton, 2,971-3,023 feet, 390 bbls. Jack Stinson No. 1 Smith, 393-400 feet, 2 bbls.

Bennett Petroleum Co. No. 6 Chambers, 2,930-98 feet, 600 bbls.; No. 2 D. C. Clayton, 2,930-3,010 feet, 750 bbls.; No. 5 D. C. Clayton, 2,930-3,035 feet, 508 bbls. Gwynn & Overby No. 6 Lowe, 2,954-3,014 feet, 56 bbls. T. D. Humphrey No. 2 Cook, 2,831-3,000 feet, 340 bbls. Mullendore and others No. 3 Chambers, 2,990-3,065 feet, 20 bbls.; No. 4 Chambers, 3,150 feet, dry. O. J. Perrin No. 3 Clayton, 2,977-3,005 feet, 460 bbls. Joe Rogers No. 1 Moore, 555 feet, dry. Royal Petroleum Corp. No. 1 J. A. Raley, 3,152-3,258 feet, 328 bbls. Stroube & Stroube No. 1 Chambers, 3,087 feet, dry.

### Montague County

Bridwell Oil Co. No. 1 Jones, 532-657 feet, total depth 1,866 feet, 850,000 feet gas. Continental Oil Co. No. 11 Jones, 856-75 feet, 11 bbls. Kerbow and others No. 1 Cunningham, 1,000 feet, dry. Raizen Brothers No. 6 Jones, 392-412 feet, 600,000 feet gas. Sinclair Prairie No. 3 Holt, 1,723-39 feet, 230 bbls.

Continental Oil Co. No. 6 Mrs. A. B. Hinton, 799-817 feet, 36 bbls. Continental Oil Co. No. 21 Howard A, 1,388-98 feet, 7 bbls.

### Wichita County

Burns & Long No. 14 Pratt, 1,681-1,720 feet, 2 bbls. Continental Oil Co. No. 10 Waggoner, 1,476-91 feet, 100 bbls. Deep Oil Development Co. No. 7 Munger A, 3,820-81 feet, 450 bbls. Forbess & Golden No. 3 Mertins, abandoned location. King Oil Co. No. 1 Waggoner S, 1,956-66 feet, 5 bbls. Palmer & Chenault No. 1 McCarty A, 1,824 feet, dry. O. R. Tautenhahn No. 1 Kemp & Kempner, 1,826 feet, dry. Texas Co. No. 74 Honaker, 1,047-58 feet, 20 bbls.

L. T. Burns No. 15 Waggoner, 1,740-51½ feet, 30 bbls. Douglas Production Co. No. 27 fee, 321 feet, dry. Humble Oil & Refining Co. No. 1 Norman, 697 feet, dry; No. 2 Williams, 696 feet, dry. King Oil Co. No. 1 Johnson, 1,930 feet, dry; No. 14 Waggoner H, 1,946-1,950 feet, 225 bbls. Waggoner Refining Co. No. 14 Waggoner AA, 1,942-54 feet, 150 bbls.

### Wilbarger County

Lawson & Leavell No. 11 Waggoner, 1,625-55 feet, 80 bbls. Phillips Petroleum Co. No. 51 Waggoner A, 3,069-71 feet, flowing 90 bbls. per hour.

Barkley & Meadows No. 20 Waggoner C, 1,118-28 feet, 15 bbls. H. W. Roberts No. 6 Waggoner, 1,202-12 feet, 10 bbls. Waggoner Refining Co. No. 6 Waggoner CC, 1,100-14 feet, 100 bbls.

### Throckmorton County

Canyon Oil & Gas Co. No. 4 Lilly, 406 feet, dry; No. 5 Lilly, 353 feet, dry. F. Moss No. 1 Daws, 642 feet, dry.

### Young County

George A. Alexander No. 2 Jeffery, 900 feet, dry. S. S. Alexander No. 1 Goldston B, 4,204 feet, dry. Paul Atchley No. 2 Atchley, 999-1,005 feet, 45 bbls. L. T. Burns No. 1 Hamilton B, 997 feet, dry. Duncan Holt No. 17 Benson, 1,176 feet, dry. Evans & Todd No. 1 Jackson, 730 feet, dry. Holbrook & Woods No. 11 Watson, 601 feet, dry. King Oil Co. No. 5 Johnson B, 524 feet, dry. J. W. Lane No. 1 Lem Groves, 963-68 feet, 10 bbls. L. E. Mitchell No. 1 Oliver, 714 feet, dry. Rathke Oil Co. No. 1 Stewart, 910 feet, dry; No. 3 Wadley, 3,952-4,012 feet, 1,500 bbls. Swink & Wagner No. 1 Cunningham, 572 feet, dry. L. W. Wickes and others No. 1 McCluskey, 4,214 feet, dry. D. L. Wolfe No. 1 Gant, 620 feet, dry. Wooten & Wilson No. 1 Furr, 801 feet, dry.

Cable Oil Co. No. 33 Snider, 567-83 feet, 5 bbls. H. C. Donohoo and others No. 1 Graham, 924 feet, dry. Clara M. Douglas No. 10 Finch, 650-60 feet, 15 bbls. Duncan Holt & Marchman No. 18 Benson, 930 feet, dry. J. J. Eagan No. 1 J. G. Yates, 507 feet, dry. Forber and others No. 1 Stewart, 612 feet, dry. Rathke Oil Co. No. 12 Graham, 903-09 feet, 25 bbls. E. D. Reed and others No. 1 Bagley, 601 feet, dry. E. E. Reynolds No. 1 W. R. Drum, 625 feet, dry. Worth Oil Co. No. 18 Cullers, 524-36, 5 bbls.

## WEST TEXAS COMPLETIONS

### Andrews County

Humble Oil & Refining Co. No. 15 J. S. Means, 4,528 feet, 365 bbls. in 16 hours, acidized.

### Crane County

C. J. Dickson No. 1-C Ed Hughes, 2,395-2,489 feet, acidized, 360 bbls. B. Fields No. 3 Gibbs, acidized, 2,250 feet, 712 bbls. Gulf Oil Corp. No. 2 Snodgrass, 3,497-3,550 feet, plugged back to 3,521 feet, 1,001 bbls; No. 2 W. N. Waddell and others, 6,709 feet, plugged back to 6,186 feet, 149 bbls. oil and 10 bbls. water per day.

Gulf Oil Corp. No. 7 Henderson, 3,366-3,575 feet, 5,457 bbls., acidized; No. 146 McElroy, 2,795-2,957 feet, shot, 453 bbls. John Hertz No. 1-C Hughes, dry and abandoned 2,371 feet, elevation 2,444 feet.

### Ector County

Gulf Oil Corp. No. 11 Goldsmith, 4,223-29 feet, shot, 2,292 bbls.

Atlantic Refining Co. No. 1 W. F. Cowden, 4,170-4,265 feet, shot, 2,420 bbls. Devonian Oil Co. No. 1 C. Scharbauer, 4,177 feet, total depth 4,225 feet, plugged back to 4,203 feet, shot, 138 bbls. plus 10 bbls. water. Eppenauer Drilling Co. No. 1-C Kloh, 4,168-4,251 feet, plugged back to 4,212 feet, shot, 341 bbls. Landreth Production Co. No. 1-C Scharbauer, 4,169-4,225 feet, 2,164 bbls. after acidizing.

### Gaines County

Stanolind Oil & Gas Co. No. 1 J. A. Morrow, dry and abandoned 4,856 feet, plugged back to

4,710 feet, elevation 3,323 feet. Amerada Petroleum Corp. No. 1 Robbins, dry and abandoned 4,940 feet, acidized, elevation 3,255 feet.

### Fisher County

General Crude Oil Co. No. 7 Willingham, 3,103-3,149 feet, plugged back to 3,130 feet, acidized, 70 bbls. per day on pump.

### Glasscock County

Continental Oil Co. No. 23-S Settles, 1,215-50 feet, 461 bbls. on pump.

Continental Oil Co. No. 22-S Settles, 1,231-60 feet, 343 bbls. per day on pump; No. 24-S Settles, 1,235-67 feet, 482 bbls. on pump.

### Howard County

Magnolia Petroleum Co. No. 7 S. Chalk, 2,620-2,976 feet, 72 bbls. on pump. Continental Oil Co. No. 2-D Chalk, 1,720-37 feet, 321 bbls. on pump. Ennisbrook No. 11 Texas Land & Mortgage Co., 2,813 feet, shot, 463 bbls. Shasta Oil Co. No. 10 Dodge, 2,505-2,755 feet, shot, 377 bbls.

Ward Oil Co. No. 6-A Roberts, 2,937-47 feet, 1,400 bbls. on pump.

### Jones County

Danciger and others No. 4 Dorsey, 2,222-26 feet, 717 bbls. N. H. Martin & Son No. 5-C Dorsey, 2,138-55 feet, acidized, 132 bbls. Bridwell & Fikes No. 7 Jennings, 1,902-43 feet, plugged back to 1,934 feet, acidized, 295 bbls. on pump. Gillispie & Swan No. 1 Hall, dry and abandoned, 2,103 feet, elevation 1,626 feet. Oyster and others No. 1 King, dry and abandoned, 1,806 feet. Lewis Production Co. No. 1 Sayles, dry and abandoned, 2,285 feet.

H. D. Egger and others No. 1 Roberts, 2,302 feet, dry and abandoned. Snoddy & Snoddy No. 1 Harvey, 1,627-33 feet, 13 bbls. per day on pump, shot.

### Taylor County

Superior Oil Co. No. 1 Cook Heirs, 4,227 feet, dry and abandoned.

### Pecos County

Cardinal Oil Co. No. 45-E Tippett, 425-497 feet, plugged back to 454 feet, 18 bbls. on pump; No. 1-L Tippett, 1,242-1,340 feet, 5 bbls. per hour. Paul Childress No. 15 Smith, 342-370 feet, 54 bbls. on pump. Ohio Oil Co. No. 14-A Yates, 1,350-1,449 feet, 277 bbls.

### Upton County

Magnolia Petroleum Co. No. 5 Hughes, 2,253, acidized, 593 bbls. fluid, 35 per cent water. R. W. Fair and others No. 2 Cordova-Union, 2,204 feet, acidized, 160 bbls. on pump. Homestead Oil & Gas Co. No. 3 Hughes, 2,655-2,733 feet, acidized, 1,021 bbls. Shell Petroleum Corp. No. 1 Rogers, 2,578-2,620 feet, acidized, 429 bbls. on pump; No. 35 Bowen, 2,200 feet, acidized, 382 bbls. on pump.

Homestead Oil & Gas Co. No. 5 Powell, 2,660-2,737 feet, acidized, 568 bbls. on pump. D. L. Hunter and others No. 2 Robbins, 2,202-17 feet, acidized, 750 bbls. on pump.

### Ward County

Reno Oil Co. No. 4 Hardage & Wilson, 2,340-2,544 feet, shot, 897 bbls. Pat Hill No. 9 Clements, 2,190-2,300 feet, shot, 461 bbls. Standard of Texas No. 26 York, 2,528 feet, 678 bbls. F. H. E. Oil Co. No. 3 Green, 2,245-2,452 feet, shot, 556 bbls. Gibson and others No. 1 Brown, 2,155-2,304 feet, shot, 5,000,000 feet gas. Tex-Mex Petroleum Corp. No. 1 Robinson, dry and abandoned 2,573 feet. Richardson Oils, Inc., No. 17 Hathaway, 2,480-2,659 feet, shot, 668 bbls. in 6 hours. Skelly Oil Co. No. 5 Hathaway, 2,458-2,604 feet, shot, 2,500 bbls. Gulf Oil Corp. No. 67 Hutchins, 2,547-2,748 feet, shot, 819 bbls. Finley and Cherry No. 1 Sealey, 3,140-3,209 feet, acidized, 55 bbls.

Abell Brothers No. 7 Potts, 2,255-2,330 feet, shot, 341 bbls. Atlantic Refining Co. No. 1-A University, 2,570-2,770 feet, shot, 170 bbls. Eastland Oil Co. No. 5 Hathaway, 2,472-2,649 feet, shot, 6,710 bbls. Humble Oil & Refining Co. No. 8-F University, 2,551-2,735 feet, shot, 759 bbls. Lindsay & Bolin No. 3-A Hardage & Wilson, 2,363-2,480 feet, 113 bbls. Prince Brothers No. 3-C Hall-Roberts, 2,312-2,525 feet, 295 bbls. Richardson Oils, Inc., No. 20 Hathaway, 2,470-2,605 feet, shot, 5,472 bbls. Tide Water Associated No. 4 Johnson, 2,538-2,662 feet, shot, 4,233 bbls.; No. 10 Johnson, 2,533-2,655 feet, shot, 4,320 bbls. Turman Oil Co. No. 7-B Shell-Sloan, 2,475-2,545 feet, shot, 246 bbls. on pump. Wahlenmaier Petroleum Corp. No. 10 Potts, 2,240-2,375 feet, shot, 473 bbls.

### Winkler County

Amerada Petroleum Corp. No. 1-A Cowden, 2,790-3,040 feet, shot, 674 bbls. Gulf Oil Corp. No. 18 Daugherty, 2,985-3,000 feet, shot, 798 bbls; No. 15 Daugherty, 2,990-3,100 feet, shot, 817 bbls. Skelly Oil Co. No. 4 Colby, 2,859-3,115 feet, shot, 1,165 bbls.; No. 18 Halley, 2,770-2,885 feet, shot, 614 bbls. through three-fourths inch choke. Monday Oil Co. No. 10 Central State Bank of Abilene, 2,788-2,984 feet, 1,084 bbls. Sinclair Prairie Oil Co. No. 13-C Walton, 2,875-2,975 feet, shot, 1,027 bbls. Humble Oil & Refining Co. No. 12-A Colby, 2,800-3,095 feet, shot, 1,274 bbls. Champlin & Bass No. 4 Hess, 3,060-70 feet, 1,616 bbls. Texas & Pacific Coal & Oil Co. No. 16 Daugherty, 2,845-2,955 feet, shot, 427 bbls. Magnolia Petroleum Co. No. 4 State-Walton, 2,780-2,905 feet, shot, 405 bbls. through seven-eighths inch choke. Sayre Oil Co. No. 5-C Howe, 2,966 feet, shot, 1,017 bbls. Shell Petroleum Corp. No. 7-L Hendrick, 2,714-3,065 feet, shot, 765 bbls. Magnolia Petroleum Co. No. 61 Walton, 2,840-2,985 feet, shot, 1,704 bbls. Sun Oil Co. No. 1 Edwards, 3,173-75 feet, shot, 250,000 feet of gas.

Falcon Oil Co. No. 12 McCutcheon, 3,237-3,522 feet, shot, 393 bbls. Gulf Oil Corp. No. 6 Clapp, 2,804-3,120 feet, shot, 254 bbls.; No. 19 Daugherty, 2,767-3,000 feet, shot, 674 bbls.; No. 20 Daugherty, 2,805-3,000 feet, shot, 955 bbls.; No. 21 Daugherty, 2,802-3,000 feet, shot, 708 bbls.; No. 15 Keystone, 3,393-3,496 feet, shot, 181 bbls. Humble Oil & Refining Co. No. 7-C Colby, 2,800-3,100 feet, shot, 763 bbls.; No. 22 Howe, 2,800-3,010 feet, shot, 1,537 bbls.; No. 12-C Walton, 3,023-53 feet, acidized, 809 bbls. Magnolia Petroleum Co. No. 11 Central State Bank of Abilene, 2,800-3,000 feet, shot, 1,278 bbls. Monday Oil Co. No. 12 Central State Bank, 2,800-2,992 feet, 1,188 bbls. Sinclair Prairie Oil Co. No. 8-A Leck, 3,045-90 feet, acidized, 1,114 bbls.; No. 14-B Walton, 2,876-2,975 feet, shot, 1,133 bbls. Siosi Oil Co. No. 7 Lovett, 2,785-3,076 feet, shot, 519 bbls. Weaver and others No. 2 Morton, 2,652-2,890 feet, 25 bbls.

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# *Central West*

# Operations in Central Ohio, Kentucky, Illinois, Indiana

By GEORGE A. WHITNEY

FINDLAY, Ohio, Mar. 8.—The discovery of oil in the Cypress sand at 2,600 feet in Pure Oil Co. No. 1 Weiler in section 33-3n-8e, Clay County, Illinois, reported in The Oil and Gas Journal last week, continued to be the most talked of feature of the week in the Central West field. The well is reported to have 1,400 feet of oil in the hole. Pumping equipment and tankage have been ordered. The objective of the Pure Oil Co. was not the Cypress or any other relatively shallow sand as its two tests in Clay and in Wayne counties were started for the deep formations which may carry the holes down to 6,000 feet, but the discovery of oil in the Cypress sand in the Chester formation, which was one of the most productive sands in the old eastern Illinois field in the early years of the century, is of importance. The Chester formation of Mississippian age produced principally in Lawrence and Wabash counties, also in the Sandoval pool in Marion County, and the Carlyle pool in Clinton County. It is composed of sandstone, shale and limestone.

It is expected that the Pure Oil Co. will carry No. 1 Weiler down to its original objective. The Chester formation can easily be developed with a lighter outfit than is being used on No. 1, if the production warrants it.

### LIMA FIELD

One gas well and one failure were completed in the Lima field. The Wittmer Co.'s test on the Stephen Schmidtmeyer farm, section 2, Turtle Creek Township, Shelby County, was drilled through the Trenton sand at 1,269 feet to a total depth of 1,330 feet, where it was abandoned.

In Hardin County, section 17, Pleasant County, Petersine Realty Co. completed the second test on the Oscar Grappy lease as a small gas well. It was completed below the Trenton sand at 1,332-43 feet and gauged 3,482 feet of gas the first 24 hours after a shot.

In Sandusky County, section 25, Washington Township, George and John Willard rigged up No. 12 Calvin Fought farm and in section 31, Rice Township, W. A. Montgomery & Co. are drilling No. 2 Noah Hetrick.

### KENTUCKY FIELD

Three producers were completed in Ohio County, Kentucky

In the Dundee pool, Kentucky Natural Gas Co. completed No. 5 on the east 95 acres of the J. E. Mitchell farm as a 40-bbl. well, and has rigged up No. 6 on this lease. On the Cambron heirs 90 acres, Evans and James Hunt No. 2 had a production of 50 bbls. the first 24 hours after a shot. The same operators are drilling Nos. 4 and 5 and have staked two locations on this same lease.

In the same pool, C. A. Shacklett & Co. completed a test on the Ronnie Graham 7 acres, which produced 35 bbls. the first 24 hours. The same operators are rigged up for No. 3 on this lease and are drilling No. 2.

### CENTRAL OHIO FIELDS

In the Central Ohio field Armbruster & Strickler No. 7, on the Sarah Patton farm, in section 6, Perry Township, Licking County, was drilled through the sand at 679-88 feet and made 12 bbls. the first 24 hours after a shot. In the same township, section 11, Preston Oil Co. has abandoned the test on the David Wright farm. This test made a small show of oil at a depth of 699 feet.

In Coshocton County, section 19, Washington Township, Murphy Petroleum Co. No. 1 George Noland was completed below the sand at 3,344-93 feet and was abandoned after making 50,000 feet of gas. In section 3, Franklin Township, Ohio Fuel Gas Co.'s test on the John Lapp property was drilled into the Oriskany sand at 2,757-62 feet and was a commercial gas well.

In Morgan County, section 2, Marion Township, Burns Oil & Gas Co. No. 11 Maria Metzger was completed below the second Cow Run sand at 852-58 feet and gauged 240,000 feet of gas naturally. In Homer Township,

New MAC
PLUNGER BARREL
for 2-inch tubing

Outlasts three ordinary barrels, as Steel Plunger works in and out of Cast Iron Barrel as much as 2 feet on the up and down stroke and more if desired, thus flushing itself free of sand or gypsum.

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Furnished either with Sand Trap or with 2 Cup Standing Valve and Garbutt Rod.

Save, with the New "MAC"!

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WORKING BARREL COMPANY
Bradford, Pa., U.S.A.

section 1, Choguill & Co. No. 24 Onie Linscott made a show of gas in the first Cow Run sand at 200 feet and has been shut down for orders. In Deerfield Township, section 9, Joe Pierce No. 2 Charles Nelson, which has been shut down for some time, has resumed operations and is drilling up the bailer at 1,075 feet.

In Lorain County, section 10, Avon Township, William Dempsey No. 2 Nicholas Miller was completed as a 582,000-foot gas well and had a rock pressure of 300 pounds. The same operator is rigged up for a test on the Cornelius Moore property, in section 12, same township.

In Tuscarawas County, section 5, Wayne Township, Ohio Fuel Gas Co.'s test on the L. Grueneisen farm, which made a fair showing of gas in the Clinton at 4,322-55 feet, will be abandoned.

In Wayne County, section 1, Clinton Township, Harry Dempsey No. 1 Charles Yocum, which made 15,000 feet of gas in the Clinton sand at 3,196-3,210 feet, has been plugged and abandoned.

In Perry County, section 18, Clayton Township, Mid-East Gas Co. No. 1 on the Emma Williams & Co. property, which made 476,000 feet of gas naturally in the Clinton sand at 3,215-22 feet, was shot with 50 quarts and gauged 1,750,000 feet of gas after the shot. In section 8, Reading Township, Hopewell Gas & Fuel Co. is spudding in a test on the Michael Emmert lease. In section 2, Monroe Township, Wehrle Brothers are spudding in No. 7 on the Worley Deaver property.

In Fairfield County, section 33, Berne Township, City Natural Gas Works No. 4 Matilda Bower made 115,000 feet of gas naturally and may be shot. The same operators were forced to suspend operations on the No. 5 Marion Watson, in section 4, Pleasant Township, at a depth of 450 feet, when the rig was blown down.

Ohio Fuel Gas Co. No. 2 Joseph Friedman, in section 16, Jackson Township, Stark County, was completed as a large gas well in the Clinton sand at 4,212-52 feet.

In Athens County, section 35, Rome Township, Gibson & Ross No. 3 N. E. Dodds made 40,000 feet of gas in the second Cow Run sand at 622-30 feet, 10,000 feet in the Stray sand at 679-84 feet and 50,000 feet of gas in the Salt sand at 721-50 feet for a total volume of 100,000 feet naturally and may be shot.

In section 24, Lodi Township, same county, Ohio Fuel Gas Co. No. 1 Arthur Brooks is drilling in the Macksburg 500-foot sand, and has made a good show of gas but the hole is full of water.

Proffitt & Co. No. 2 J. C. Proffitt, in section 26, Lebanon Township, Meigs County, was completed below the first Berea sand at 2,114-19 feet and gauged 350,000 feet of gas naturally and has a rock pressure of 750 pounds.

## California Fields

*(Continued from Page 113)*

date. Signal Oil Co.'s outpost in section 21-30-27, is drilling at 6,400 feet.

### Kettleman Hills

The Kettleman North Dome Association (Kenda) completed two wells in the Kettleman north dome of Kettleman Hills. Kenda No. 25-20-J in section 20-21-17, was brought in flowing 2,212 bbls. of exceptionally clean 33.1 gravity oil and 1,200,000 feet of natural gas per day from 8,675 feet after the hole had been finished with a 4¾-inch liner carrying 63 feet of perforated. Kenda No. 63-28-J in section 28-21-17, was good for 724 bbls. of 32.8 gravity oil and 600,000 feet of natural gas from 8,050 feet after the hole had been plugged back from 8,480 feet because of bottom water.

### Los Angeles Basin

In the Montebello field, St. Helens Petroleum Co. recompleted No. 7 P. & B. flowing 1,214 bbls. of clean 28.9 gravity oil per day from 5,883 feet. Richfield Oil Co. No. 2 Nutt had a potential daily production of 250 bbls. from 5,856 feet but the output is showing an excessive cut.

In the East Coyote field, Bandini Petroleum Co., a subsidiary of Wilshire Oil Co., completed No. 1 Kammerdiner pumping 205 bbls. of relatively clean 24.1 gravity oil per day from 2,795 feet.

In the Huntington Beach field Richfield Oil Co. recompleted No. 1 Community, pumping 190 bbls. daily after the hole had been redrilled and deepened to 3,947 feet. George Terry No. 2 Crane, a new well, was completed pumping 131 bbls. of relatively clean 22.1 gravity oil per day from 3,958 feet, plugged back from 3,975 feet.

In the Dominguez field Union Oil Co. No. 48 Callender was brought in flowing 650 bbls. of clean 31.1 gravity oil and 745,000 feet of natural gas per day from the seventh Callender zone at 7,062 feet. The company's No. 50 Callender, a deep test, has reached a depth of 9,520 feet and is drilling.

In the Richfield district of Los Angeles Basin Union Oil Co. completed No. 43 Chapman, pumping 101 bbls. of 22.3 gravity oil per day from 3,425 feet. Bachman Petroleum No. 1 Kelly started at 75 bbls. per day from 3,810 feet but the company may go back into the hole in an effort to stimulate production as the perforations may have become filled up. In the Torrance field Fullerton Oil Co. recompleted No. 4 Cotton fee, pumping 41 bbls. per day from 4,626 feet. It is cutting between 25 and 35 per cent water.

### San Joaquin Basin

In the Midway-Sunset field of Kern County Texas Co. No. 18 Midway in section 32-32-24, proved good for 434 bbls. of 22.9 gravity oil per day on the beam from 3,098 feet. Oil, Inc., completed No. 3 Midway in section 7-11-23, pumping 190 bbls. of clean 23.4 gravity oil daily from 1,645 feet. Honolulu Oil Corp. No. 17 Midway in section 14-32-24, showed an initial production of 130 bbls., the oil testing 21.4 degrees and being quite clean. No. 17 Midway was bottomed at 2,780 feet and finished with a 4¾-inch liner carrying 61 feet of perforated.

Out in the Premier section of the Kern River field Standard Oil Co. completed No. 9-4 in section 9-28-27, pumping 145 bbls. of 14.8 gravity oil and 48 bbls. of water per day from 2,865 feet. In the Mountain View field, Buffalo Oil Co. completed No. 6 in section 19-30-29, flowing 340 bbls. of clean 23.8 gravity oil per day from 4,880 feet.

### Santa Maria

In the Santa Maria field Union Oil Co. completed No. 11 Squires, flowing 161 bbls. of comparatively clean 24.1 gravity oil per day from the third zone at 4,083 feet. Union has reconditioned a number of wells that had long since failed to produce commercially due to corroded casing and other similar factors. In addition to repressuring several of its properties new wells have been drilled and deeper sands found. Very few realize the extent of the Union Oil Co.'s holdings in the Santa Maria district. It has several hundred locations available for future work some of which are located on property owned in fee.

In the Casmalia district of Santa Maria, Todos Santos Oil Co. completed No. 1 Escolle pumping 40 bbls. of 10.1 gravity oil per day from 2,583 feet and in the Piru district of Ventura County Bolsa Chica Oil Co. finished No. 4 Snow pumping 238 bbls. per day from 3,534 feet after plugging the hole back from 4,584 feet. In the McDonald Island gas field of San Joaquin County Standard Oil Co. completed No. 1 Tilden flowing 48,000,000 feet of dry natural gas per day from 5,312 feet.

# *Canadian Fields*

# Completions and Operations in Northwest and in Ontario

By VICTOR LAURISTON

CHATHAM, Ontario, Mar. 6.—On the west flank of the South Turner Valley structure, West Side Royalties No. 1, LSD 3, section 21-18-2w5, discontinued drilling on top of the black lime at 6,375 feet and is testing production. It is 435 feet in the Madison, and is the most southerly of the west flank wells to get the lime. Possibility of a flattening of the structure toward the south or southwest is indicated, and the results will have a pronounced bearing on the southwesterly extension of the field. The test is sponsored by the R. A. Brown group. Farther north in the same section, Newfold Royalties No. 1, LSD 11, offsetting Century Royalties No. 1 producer to the south, is drilling close to the black lime below 6,127 feet, after getting the Madison at 5,810 feet. It has drilled through an unusual thickness of porous limestone getting 110 feet of porosity in the first 260 feet in the Upper Madison.

In the West Central area, Dalhousie Oil Co. No. 8, LSD 6, section 30-19-2w5, has resumed after cementing casing 25 feet in the Madison lime at 6,203 feet.

In section 33-18-2w5, Royalite Oil Co. No. 4 Sterling-Pacific, LSD 4, offsetting Turner Valley Royalties No. 1 to the north, which got the Madison at 6,734 feet, is deepening after cementing 6-inch casing at 6,737 feet.

### Production Test Results

In section 28-18-2w5, B.&B. Co. No. 1, LSD 12, finished in the Madison lime at 6,608 feet with a flush production of 2,200 bbls. a day, is in steady production and flowing about 950 bbls. a day, with some back pressure applied to conserve gas.

### West Flank Operations

In section 19-19-2w5, rotary outfit is being brought in for Brown Oil Corp. No. 3, LSD 15. Kermac Petroleums No. 2, LSD 16, section 18-19-2w5, is working on cellar. Location is 100 feet from the east and 500 feet from the north line of the subdivision. Work is under direction of W. S. Applegate and cable tools will be used to 3,000 feet, finishing with rotary.

In section 5-19-2w5, Mercury Royalties No. 1, LSD 8, is resuming after setting casing at 1,708 feet. Mercury Oils No. 8, LSD 3, section 4-19-2w5, is below 400 feet after setting 21-inch surface pipe at 207 feet.

In section 33-18-2w5, Royalite Oil Co. No. 5 Sterling-Pacific, LSD 12, is rigging.

In section 32-18-2w5, Roxana Petroleum No. 2, S half LSD 12, has finished gas line and is working on cellar. West Turner Petroleums, Ltd., of Vancouver, is locating No. 1 test on an 80-acre tract in LSDs 2 and 3, same section. Admiral Oils, Ltd., is preparing for a test in N half LSD 12, same section. Directors of the Admiral company are: F. L. Shouldice, Dr. L. A. Maxwell, D. C. Howland, G. D. C. McEwen and S. H. Purdy.

In the same section, West Flank Oil Co. will dril on an 80-acre tract in LSDs 1 and 8, on acreage of the Canadian Oil Development Syndicate which holds a 47 per cent interest in the company, Anglo-Canadian Development & Holding Co. holding 53 per cent. The acreage is in the east half of the SE quarter of the section, and northwest of Turner Valley Royalties No. 1 producer.

In section 28-18-2w5, Richland Royalties No. 1, NE quarter LSD 12, is below 200 feet and preparing for water shutoff. Richland No. 2, LSD 5, bottoming at 4,060 feet, is cleaning and running casing. Richland No. 3, LSD 14, same section, is below 4,510 feet with considerable oil showings from the McDougall-Segur sands. The Madison lime is expected around 5,700 feet. In LSD 4, same section, Model-Spooner No. 1 is working on derrick for a test to be drilled jointly by Reward Oils, Spooner Oils, Model Oils and British American Oil Co.

In section 29-18-2w5, rig from Sovereign Royalties No. 1 producer is being reerected for Commoil No. 1, LSD 15. Share Royalties No. 1, N half LSD 8, same section, has cellar and gas and water lines completed, and equipment on the ground. Globe Royalties No. 1, LSD 7, same section, has cellar dug and is laying water and gas lines. Union Drilling Co. of Calgary has the contract and will use 136-foot derrick and combination outfit, drilling the first 3,500 feet with cable tools and finishing with rotary.

*(Continued on Page 131)*

# WILDCAT OPERATIONS

## CALIFORNIA

### IMPORTANT WELLS AND NORTHERN CALIFORNIA WILDCATS

| Company, well and location— | S.T.R. | Depth | Status |
|---|---|---|---|
| Shell Oil Co., No. 1-23 Capitan, Santa Barbara Co. | 32- 5-30 | 1,117 | sd. sh. drlg. |
| Barnsdall-Rio Grande, No. 19 Elwood, Santa Barbara | 15- 4-29 | 3,636 | will test |
| Signal Oil & Gas, No. 98-9 Elwood, Santa Barbara Co. | tideland | 3,632 | sd. sh. drlg. |
| Bush Oil Co., No. 4 Santa Maria, Santa Barbara Co. | 30-10-33 | 3,530 | sd. sh. drlg. |
| Union Oil Co., No. 2 Santa Maria, Santa Barbara Co. | 30-10-33 | 3,475 | sd. sh. drlg. |
| Union Oil Co., No. 11 Orcutt, Santa Barbara Co. | 26- 9-34 | 4,083 | flow. 161 b.d. |
| Union Oil Co., No. 12 Orcutt, Santa Barbara Co. | 26- 9-34 | 3,682 | sd. sh. drlg. |
| Union Oil Co., No. 17 Orcutt, Santa Barbara Co. | 26- 9-34 | 3,306 | cmtd. 3,285 |
| Valley Oil Co., No. 1 Casmalia, Santa Barbara Co. | 20- 9-34 | 1,410 | idle |
| Barnsdall Oil Co., No. 9 Gato Ridge, Santa Barbara Co. | 9- 8-32 | 2,465 | rig. to pump |
| Field Gasoline Corp., No. 1 Gato Ridge, Santa Barbara | 4- 8-32 | 2,812 | fish. bailer |
| Stewart-Carter Oil, No. 1 Gato Ridge, Santa Barbara | 4- 8-32 | 2,311 | cmtd. 2,160 |
| Moore, Inc., No. 1 Santa Maria, Santa Barbara Co. | 25-10-35 | 8,086 | sd. sh. drlg. |
| Nine Springs Oil Co., No. 1 Los Olivos, Santa Barbara | 9- 7-30 | 3,080 | cleaning out |
| Fisher, Dan, No. 1 Cuyama, Santa Barbara Co. | 28-11-28 | 646 | sd. sh. drlg. |
| Texas Co., No. 132 Shiells, Ventura Co. | 4- 3-19 | 3,063 | hd. sd. drlg. |
| Calumet Oil Co., No. 16 Shiells, Ventura Co. | 3- 3-19 | 3,880 | sd. sh. drlg. |
| Condor Oil Co., No. 1 Sespe, Ventura Co. | 6- 4-19 | 1,496 | br. sh. drlg. |
| Merchants Pet. Co., No. 7 Sespe, Ventura Co. | 1- 4-20 | 640 | sd. sh. drlg. |
| Speik Oil Co., No. 2 Sespe, Ventura Co. | 33- 5-19 | 1,889 | sd. sh. drlg. |
| Colima Oil Co., No. 2 Sespe, Ventura Co. | 25- 5-19 | 1,610 | sd. sh. drlg. |
| Bolsa Chica Oil Co., No. 4 Temescal, Ventura Co. | 4- 4-18 | 3,534 | pump. 220 b.d. |
| Bolsa Chica Oil Co., No. 5 Temescal, Ventura Co. | 5- 4-18 | 760 | sd. sh. drlg. |
| Pacific Western Oil Co., No. 10 Temescal, Ventura Co. | 3- 4-18 | 1,520 | sd. sh. drlg. |
| St. Louis Oil Co., No. 3 Ojai, Ventura Co. | 13- 4-24 | 610 | hd. sd. drlg. |
| Continental Oil Co., No. 1 Red Mountain, Ventura Co | 7- 3-23 | 5,400 | bl. sh. drlg. |
| C. C. M. Oil Co., No. 2 Padre Canyon, Ventura Co. | 23- 3-24 | 6,465 | redrlg. 2,695 |
| C. C. M. Oil Co., No. 5-A Padre Canyon, Ventura Co. | 15- 3-24 | 593 | sd. sh. drlg. |
| Continental Oil Co., No. 3 Padre Canyon, Ventura Co. | 15- 3-24 | 1,590 | sd. sh. drlg. |
| Honolulu Oil Corp., No. 1 South Mountain, Ventura Co. | 23- 3-21 | 6,744 | pump. water |
| Calco Pet. Corp., No. 4 South Mountain, Ventura Co. | 17- 3-20 | 3,598 | sd. sh. drlg. |
| Associated Oil Co., No. 27 Hartman, Ventura, Ventura | 22- 3-23 | 5,930 | flow. water |
| Associated Oil Co., No. 25 V.L.W., Ventura, Ventura | 23- 3-23 | 7,055 | redrlg. 6,787 |
| Associated Oil Co., No. 28 Lloyd, Ventura, Ventura Co. | 27- 3-23 | 6,701 | sd. sh. drlg. |
| Associated Oil Co., No. 29 Lloyd, Ventura, Ventura Co. | 27- 3-23 | 752 | sd. sh. drlg. |
| Associated Oil Co., No. 64 Lloyd, Ventura, Ventura Co. | 27- 3-23 | 1,941 | sd. sh. drlg. |
| Associated Oil Co., No. 137 Lloyd, Ventura, Ventura Co. | 27- 3-23 | 3,290 | sd. sh. drlg. |
| Shell Oil Co., No. 89 Taylor, Ventura, Ventura Co. | 30- 3-23 | 7,025 | recmtd. 6,996 |
| Shell Oil Co., No. 34 Gosnell, Ventura, Ventura Co. | 23- 3-23 | 7,563 | redrlg. 7,121 |
| General Pet. Corp., No. 17 Barnard, Ventura, Ventura | 23- 3-23 | 6,695 | reaming |
| Continental Oil Co., No. 6 San Miguelito, Ventura Co. | 24- 3-24 | 5,739 | P.B. 5,525 |
| C. C. M. Oil Co., No. 13-B Rincon, Ventura Co. | 8- 3-24 | 2,761 | sd. sh. drlg. |
| General Pet. Corp., No. 3-A Rincon, Ventura Co. | 8- 3-24 | 4,512 | redrlg. 4,510 |
| Surf Oil Co., No. 4 S.P., Rincon, Ventura Co. | 8- 3-24 | 3,865 | pump. 94 b.d. |
| Lube Oil Co., No. 1 Devils Den, Kern Co. | 2-25-18 | 3,691 | br. sh. drlg. |
| Den Pet. Co., No. 1 Devils Den, Kern Co. | 20-25-19 | 3,280 | sd. sh. drlg. |
| Associated Oil Co., No. 10-A-3 Lost Hills, Kern Co. | 11-26-20 | 1,426 | pump. 190 b.d. |
| Standard Oil Co., No. 3 United, Lost Hills, Kern Co. | 2-26-20 | 1,407 | cmtd. 1,405 |
| Texas Co., No. 1 Theta, Lost Hills, Kern Co. | 11-26-20 | 2,037 | redrlg. 1,800 |
| Peters Royalty Corp., No. 2 McKittrick, Kern Co. | 32-29-22 | 1,698 | test. W.S.O. |
| Continental Oil Co., No. 1 Wasco, Kern Co. | 8-27-24 | 9,545 | bailing |
| Belridge Oil Co., No. 14-35 North Belridge, Kern Co. | 35-27-20 | 8,041 | cmtd. 8,035 |
| Belridge Oil Co., No. 24-35 North Belridge, Kern Co. | 35-27-20 | 2,881 | sd. sh. drlg. |
| Belridge Oil Co., No. 62-27 North Belridge, Kern Co. | 27-27-20 | 6,191 | br. sh. drlg. |
| Belridge Oil Co., No. 21-1 North Belridge, Kern Co. | 1-28-20 | 4,960 | sd. sh. drlg. |
| Calif. Western Oil Co., No. 2 Round Mountain, Kern Co. | 12-28-28 | 1,295 | sd. sh. drlg. |
| Italo Pet. Co., No. 1 Kern Front, Kern Co. | 17-28-27 | 2,930 | sd. sh. drlg. |
| Tide Water Associated, No. 3 Kern Front, Kern Co. | 4-28-27 | 2,610 | cleaning out |
| Honolulu Oil Corp., No. 68 Kern Front, Kern Co. | 8-28-27 | 2,876 | P.B. 2,798 |
| Wight, Robert, No. 1 Kern Front, Kern Co. | 13-28-27 | 520 | sd. sh. drlg. |
| Seskayden Oil Co., No. 3 Kern Front, Kern Co. | 17-28-27 | 2,870 | pump. 25 b.d. |
| Seskayden Oil Co., No. 4 Kern Front, Kern Co. | 17-28-27 | 1,570 | sd. sh. drlg. |
| Standard Oil Co., No. 3 Ward, Kern Front, Kern Co. | 24-28-27 | 1,995 | pump. 242 b.d. |
| Standard Oil Co., No. 4-9 Kern Front, Kern Co. | 9-28-27 | 2,865 | pump. 145 b.d. |
| Standard Oil Co., No. 5-9 Kern Front, Kern Co. | 9-28-27 | 2,198 | sd. sh. drlg. |
| Pioneer Oil Co., No. 1 Kern Front, Kern Co. | 18-28-28 | 1,100 | P.B. 1,100 |
| National Oil Co., No. 9 Gates, Kern Front, Kern Co. | 2-28-29 | 1,450 | cleaning out |
| McManus, Thomas, No. 3 Kern River, Kern Co. | 2-29-28 | 381 | sd. sh. drlg. |
| Golden Bear Oil Co., No. 5 Premier, Kern Co. | 32-27-27 | 2,678 | pump. 255 b.d |
| Bojaki Oil Co., No. 1 Premier, Kern Co. | 28-27-27 | 1,667 | sd. sh. drlg. |
| Framac Oil Co., No. 3 Premier, Kern Co. | 22-27-27 | 1,351 | idle |
| Roscoe & Stanley, No. 3 Newhope, Premier, Kern Co. | 29-27-27 | 280 | sd. sh. drlg. |
| Ring Oil Co., No. 3 Knapp, Mount Poso, Kern Co. | 28-26-28 | 1,470 | sd. sh. drlg. |
| Harp, E. J., No. 1 Mount Poso, Kern Co. | 27-26-28 | 1,845 | P.B. 1,460 |
| C. C. M. Oil Co., No. 1 Alford, Mount Poso, Kern Co. | 35-27-27 | 2,150 | will deepen |
| Goldman, F., No. 2 Mount Poso, Kern Co. | 35-27-28 | 1,506 | rig. to pump |
| W. H. G. Oil Co., No. 1 McVan, Mount Poso, Kern Co. | 10-27-27 | 1,570 | bailed dry |
| Magee, H. H., No. 2 Fruitvale, Kern Co. | 23-29-27 | 3,230 | O.S. drlg. |
| H. & H. Oil Co., No. 1 Fruitvale, Kern Co. | 23-29-27 | 3,230 | O.S. drlg. |
| Western Gulf Oil Co., No. 35 Fruitvale, Kern Co. | 21-29-27 | 1,280 | sd. sh. drlg. |
| Kasey & Associates, No. 1 Fruitvale, Kern Co. | 23-29-27 | 3,114 | P.B. 3,105 |
| Magnet Oil Co., No. 4 Fruitvale, Kern Co. | 21-29-27 | 4,160 | recmtd. 4,108 |
| Vesta Oil Co., No. 1 Mountain View, Kern Co. | 19-30-29 | 3,652 | sd. sh. drlg. |
| Wood-Callahan Oil Co., No. 3 Mountain View, Kern | 25-30-28 | 5,489 | sd. sh. drlg. |
| Hogan Pet. Co., No. 4 Symons, Mountain View, Kern | 5-31-29 | 5,150 | sd. sh. drlg. |
| Hogan Pet. Co., No. 8 Wharton, Mountain View, Kern | 32-30-29 | 3,985 | sd. sh. drlg. |
| Hogan Pet. Co., No. 9 Porter, Mountain View, Kern | 29-30-29 | 6,098 | pump. 20 b.d. |
| Liko Pet. Co., No. 1 Mountain View, Kern Co. | 19-30-29 | 4,220 | sd. sh. drlg. |
| Buffalo Oil Co., No. 6 Mountain View, Kern Co. | 19-30-29 | 4,880 | flow. 340 b.d. |
| Standard Oil Co., No. 4 Mabry, Mountain View, Kern | 18-30-29 | 4,955 | flow. 149 b.d. |
| Ohio Oil Co., No. 1-B Derby, Mountain View, Kern Co. | 33-30-29 | 5,270 | sd. sh. drlg. |
| Mohawk Pet. Co., No. 3 Hood, Mountain View, Kern | 30-30-29 | 8,689 | P.B. 6,015 |
| Mohawk Pet. Co., No. 2-C Mountain View, Kern Co. | 30-30-29 | 5,955 | deepening |
| Johnson-Leaf Oil Co., No. 1 Edison, Kern Co. | 24-30-29 | 1,525 | cleaning out |
| Mohawk Pet. Co., No. 3 Earl, Arvin, Kern Co. | 4-31-29 | 5,211 | sd. sh. drlg. |
| General Pet. Corp., No. 1 Arvin, Kern Co. | 26-31-29 | 7,395 | cleaning out |
| Arkelo Oil Co., No. 1 Lerdo, Kern Co. | 23-28-26 | 8,810 | gr. sd. drlg. |
| Associated Oil Co., No. 1 Rio Bravo, Kern Co. | 30-29-25 | 8,317 | sd. sh. drlg. |
| Continental Oil Co., No. 1 Rosedale, Kern Co. | 12-29-26 | 4,374 | sd. sh. drlg. |
| Standard Oil Co., No. 11-2 Greeley, Kern Co. | 20-29-26 | 7,621 | sd. sh. drlg. |
| Standard Oil Co., No. 11-3 Greeley, Kern Co. | 20-29-26 | 5,161 | sd. sh. drlg. |
| Standard Oil Co., No. 12-1 Greeley, Kern Co. | 30-29-26 | 7,301 | sd. sh. drlg. |
| Standard Oil Co., No. 14-1 Greeley, Kern Co. | 4-30-26 | 6,962 | sd. sh. drlg. |
| Union Oil Co., No. 1 San Emidio, Kern Co. | 34-11-22 | 4,190 | sd. sh. drlg. |
| Shell Oil Co., No. 78-30 Ten Section, Kern Co. | 30-30-26 | 8,287 | O.S. drlg. |
| Shell Oil Co., No. 34-29 Ten Section, Kern Co. | 29-30-26 | 8,243 | flow. 2,724 b.d. |
| Signal Oil & Gas Co., No. 1 Ten Eection, Kern Co. | 21-30-27 | 6,353 | sd. sh. drlg. |
| Standard Oil Co., No. 9-1 Ten Section, Kern Co. | 34-30-26 | 8,915 | P.B. 958 |
| Superior Oil Co., No. 8 Ten Section, Kern Co. | 11-30-26 | 10,409 | cmtd. 10,380 |
| C. C. M. Oil Co., No. 26-21 Midway-Sunset, Kern Co. | 21-32-23 | 2,335 | recmtd. 1,775 |
| C. C. M. Oil Co., No. 33-21 Midway-Sunset, Kern Co. | 21-32-23 | 2,635 | cmtd. 1,685 |
| C. C. M. Oil Co., No. 1-J Midway-Sunset, Kern Co. | 21-32-23 | 2,200 | bailing |
| Hancock Oil Co., No. 5 Midway-Sunset, Kern Co. | 8-11-23 | 3,057 | cmtd. 2,910 |
| Five Points Oil Co., No. 2-4 Midway-Sunset, Kern Co. | 18-11-23 | 987 | pump. 30 b.d. |
| Hallmark Oil Co., No. 6 Fried, Midway-Sunset, Kern | 25-12-24 | 2,886 | sd. sh. drlg. |
| General Pet. Corp., No. 49 Midway-Sunset, Kern Co. | 24-31-23 | 4,424 | reaming |
| R. & W. Oil Co., No. 4 Midway-Sunset, Kern Co. | 6-11-23 | 2,305 | sd. sh. drlg. |
| Shell Oil Co., No. 1 Midway-Sunset, Kern Co. | 22-32-23 | 2,112 | pump. 435 b.d. |
| Berry Oil Co., No. 21 Midway-Sunset, Kern Co. | 34-12-24 | 690 | sd. sh. drlg. |
| Standard Oil Co., No. 79-33-D Midway-Sunset, Kern Co. | 33-32-23 | 1,185 | sd. sh. drlg. |
| Standard Oil Co., No. 39-23-D Midway-Sunset, Kern Co. | 23-32-24 | 3,708 | sd. sh. drlg. |
| Burkholder Oil Co., No. 2 Midway-Sunset, Kern Co. | 23-32-23 | 1,400 | br. sh. drlg. |
| Gibson Oil Co., No. 4 O'Brian, Midway-Sunset, Kern | 6-11-23 | 3,065 | cleaning out |
| Richfield Oil Co., No. 12 Midway-Sunset, Kern Co. | 6-32-23 | 1,205 | O.S. drlg. |
| McGray, Robert, No. 2 Midway-Sunset, Kern Co. | 22-32-23 | 2,435 | P.B. 2,343 |
| North American Oil Co., No. 5 Midway-Sunset, Kern | 25-12-24 | 1,590 | sd. sh. drlg. |
| Texas Co., No. 18 Midway-Sunset, Kern Co. | 32-32-24 | 3,098 | pump. 434 b.d. |
| Birch-Ranch Oil Co., No. 2 Midway-Sunset, Kern Co. | 22-32-23 | 2,090 | O.S. drlg. |
| Valley Oil Co., No. 1 Midway-Sunset, Kern Co. | 18-32-23 | 1,500 | br. sh. drlg. |
| Pattiway Oil Co., No. 1 Midway-Sunset, Kern Co. | 12-11-24 | 1,797 | bailing |
| Oil, Inc., No. 3 Midway-Sunset, Kern Co. | 7-11-23 | 1,645 | pump. 194 b.d. |
| Hoyt, Otis, No. 5 Midway-Sunset, Kern Co. | 7-11-23 | 2,027 | cmtd. 1,398 |
| Quality Oil Co., No. 4 Bull, Midway-Sunset, Kern Co. | 22-32-23 | 1,605 | cmtd. 1,550 |
| Quality Oil Co., No. 5 Bull, Midway-Sunset, Kern Co. | 22-32-23 | 1,590 | sd. sh. drlg. |
| Honolulu Oil Corp., No. 17 Midway-Sunset, Kern Co. | 14-32-24 | 2,780 | pumping test |
| Iriquois Oil Co., No. 1 Midway-Sunset, Kern Co. | 7-11-23 | 1,255 | sd. sh. drlg. |
| Petrolia Royalties, No. 1 Midway-Sunset, Kern Co. | 21-32-22 | 830 | sd. sh. drlg. |
| Buffalo Oil Co., No. 1 Tejon, Kern Co. | 5-10-19 | 3,797 | sd. sh. drlg. |
| Reserve Oil & Gas Co., No. 33-1 Tejon, Kern Co. | 33-11-19 | 4,989 | idle |
| Reserve Oil & Gas Co., No. 33-2 Tejon, Kern Co. | 33-11-19 | 4,495 | redrlg. 4,465 |
| Reserve Oil & Gas Co., No. 33-3 Tejon, Kern Co. | 33-11-19 | 4,431 | shut in |
| Ohio Oil Co., No. 2 Tejon, Kern Co. | 21-11-19 | 6,662 | fish. liner |
| Western Gulf, No. 3 Cantua, Fresno Co. | 3-17-15 | 6,530 | cleaning out |
| Union Oil Co., No. 2 Kettleman North, Fresno Co. | 29-21-17 | 8,500 | cleaning out |
| K. N. D. A., No. 4-18-J Kettleman North, Fresno Co. | 18-21-17 | 9,400 | P.B. 8,227 |
| K. N. D. A., No. 25-20-J Kettleman North, Fresno Co. | 20-21-17 | 8,675 | flow. 2,212 b.d. |
| K. N. D. A., No. 36-28-J Kettleman North, Fresno Co. | 28-21-17 | 7,170 | cmtd. 7,169 |
| K. N. D. A., No. 63-28-J Kettleman North, Fresno Co. | 28-21-17 | 8,050 | flow. 724 b.d. |
| K. N. D. A., No. 65-28-J Kettleman North, Fresno Co. | 28-21-17 | 5,791 | sd. sh. drlg. |
| K. N. D. A., No. 83-24-H Kettleman North, Fresno Co. | 24-21-16 | 8,935 | P.B. 8,882 |
| K. N. D. A., No. 85-32-J Kettleman North, Fresno Co. | 32-21-17 | 8,485 | redrlg. 8,271 |
| K. N. D. A., No. 63-34-J Kettleman North, Fresno Co. | 34-21-17 | 5,530 | br. sh. drlg. |
| Associated Oil Co., No. 3 Kettleman North, Kings Co. | 35-21-17 | 8,858 | fish. liner |
| Standard Oil Co., No. 8-19-J Kettleman North, Fresno | 19-21-17 | 8,120 | P.B. 8,082 |
| Standard Oil Co., No. 85-19-J Kettleman North, Fresno | 19-21-17 | 8,619 | fish. D.P. |
| Standard Oil Co., No. 38-33-J Kettleman North, Fresno | 33-21-17 | 6,767 | sd. sh. drlg. |
| Standard Oil Co., No. 78-3-P Kettleman North, Kings | 3-22-17 | 6,021 | sd. sh. drlg. |

### KEY TO ABBREVIATIONS USED IN DRILLING REPORTS

Abd., abandoned.
Bldg., building.
B.D., barrels daily.
B.P., back pressure.
B.R., building rig.
Br. sh., brown shale.
B.S., basic sediment.
C.P., casing pressure.
Cd or Crd., cored.
C.D., corrected depth.
Cg., coring.
C.L., center line.
Cmtd., cemented.
C.O., cleaning out.
Comp., completed.
Compr., compressor.
C.P., casing pressure, also cement through perforations.
Csg., casing.
D.D., drilling (or drilled) deeper.
Drlg. or Drg., drilling.
Drk. or Dk., derrick.
D.S., drill stem.
D.&A., dry and abandoned
Fsg., fishing.
Gbo., gumbo.
G.I., gas injection.
Gr., gravity.
Gr. sd., gray sand.
Grn. sh., green shale.
Hd. sd., hard sand.
H.F.W., hole full of water.
I.P., initial production.
L., lime.
L.D.D., later drilled deeper.
Lnr., liner.
Loc., location.
M.I.M., moving in material.
M.I.R., moving in rig.
M.I.R.T., moving in rotary tools.
M.O.T., milling on tools.
O.I.H., oil in hole.
O.S., oil sand.
O.T.D., old total depth.
O.W.D.D., old well drilling deeper.
O.W.P.B., old well plugging back.
P.B., plugging or plugged back.
P.B.P., pulling big pipe.
P.L., pipe line.
P.L.O., pipe line oil.
Pmpg., pumping.
P.O.P., putting on pump.
P.P., pulled pipe.
Rd. sd., red sand.
Rd. sh., red shale.
Recmt., recemented.
Rmg., reaming.
Redrlg., redrilling.
Rng., running.
R.O.G., rig on ground.
R.P., rock pressure.
R.U., rigging up.
R.U.R., rigging up rotary.
R.U.R.T., rigging up rotary tools.
R.U.S.T., rigging up standard tools.
R.&T., rods and tubing.
S. or Sd., sand.
S.D., shut down.
Sd. sh., sandy shale.
Sdtr., or St., sidetracking.
S.D.P.L., shut down for pipe line.
S.D.W.O., shut down awaiting orders.
S.G., show gas.
Sh.&L., shale and lime.
S.i., shut in.
S.I.P., shut in, prorated.
S.L.M., steel line measurement.
S.O., show oil.
S.O.G.&W., show of oil, gas and water.
Spdg. or Spd., spudding.
S.R., straightreaming.
Stdg., standardizing (also standing).
S.W., salt water.
Swbg., swabbing.
T.A., temporary abandoned.
Tbg., tubing.
T.D., total depth.
T.P., tubing pressure.
Tr., tract.
U.R., underreaming.
W.I.H., water in hole.
W.O., workover.
W.O.C. or W.O.C.S., waiting on cement to set.
W.P., working pressure.
W.S.O., water shutoff.
W.S.O.O.K., water shutoff O.K.
W.S.O.N.G., water shutoff no good.
W.S.R. or W.O.S.R., wait on standard rig.
Wtr., water.

| | | | |
|---|---|---|---|
| Standard Oil Co., No. 46-19-V Kettleman Middle, Kings | 19-23-19 | 7,962 | idle |
| Temblor Oil Co., No. 1 Kettleman Middle, Kings Co... | 25-23-18 | 5,935 | cleaning out |
| Central Cal. Utilities, No. 3 Dudley, Kings Co. ..... | 11-23-19 | 1,221 | sd. sh. drlg. |
| Associated Oil Co., No. 2 Avenal, Kings Co. ..... | 35-23-17 | 1,960 | redrlg. 1,640 |
| Calif. Prod. Co., No. 1 Pattiway, San Luis Obispo Co. | 19-10-24 | 751 | sd. sh. drlg. |
| United Oil Co., No. 1 Panorama, San Luis Obispo Co. | 2-32-21 | 2,375 | idle |
| Union Oil Co., No. 1 Huasna, San Luis Obispo Co. ... | 22-23-15 | 5,002 | sd. sh. drlg. |
| Lewis, A. O., No. 1 Pecho, San Luis Obispo Co. ..... | 34-30-10 | 2,310 | cleaning out |
| Martin, J. D., No. 4-A Pismo, San Luis Obispo Co. ... | 5-32-13 | 3,262 | cleaning out |
| Texas Co., No. 1 King City, Monterey Co. ..... | 30-19-7 | 2,800 | sd. sh. drlg. |
| Shell Oil Co., No. 1 Pleyto, Monterey Co. ..... | 34-24-10 | 8,994 | P.B. 8,750 |
| Shell Oil Co., No. 2 Pleyto, Monterey Co. ..... | 34-24-10 | 6,800 | sd. sh. drlg. |
| Texas Co., No. 2 Eureka, Humbolt Co. ..... | 22- 3-1 | 7,418 | cleaning out |
| Amerada Pet. Co., No. 1 Mayhood, Rio Vista, Solano | 35- 4-2 | 781 | sd. sh. drlg. |
| Associated Oil Co., No. 1 Sargent, San Benito Co. ... | 5-12-4 | 6,382 | will cmt. |
| Standard Oil Co., No. 5 McDonald Island, San Joaquin | 31- 2-5 | 5,312 | 48,000 m.c.f. |
| Buttes Oilfields, Ltd., No. 1 Kent, Sutter Co. ..... | 2-15-1 | 5,098 | will cmt. |
| Jennings, E. P., No. 1 Allensworth, Tulare Co. ..... | 4-24-23 | 2,709 | will test |
| Trico Oil & Gas Co., No. 1 Tipton, Tulare Co. ..... | 27-21-25 | 4,685 | dry; abd. |

## IMPORTANT WELLS AND SOUTHERN CALIFORNIA WILDCATS

| Company, well and location— | S.T.R. | Depth | Status |
|---|---|---|---|
| Caminol Oil Co., No. 1 El Segundo, Los Angeles Co. .. | 18- 3-14 | 7,220 | sd. sh. drlg. |
| Caminol Oil Co., No. 2 El Segundo, Los Angeles Co. .. | 18- 3-14 | 7,254 | sd. sh. drlg. |
| Richfield Oil Co., No. 2 El Segundo, Los Angeles Co. | 18- 3-14 | 7,319 | flow. 960 b.d. |
| Richfield Oil Co., No. 4 El Segundo, Los Angeles Co. | 18- 3-14 | 7,533 | O.S. drlg. |
| Texas Co., No. 2-1 El Segundo, Los Angeles Co. ..... | 17- 3-14 | 7,562 | hd. sd. drlg. |
| Texas Co., No. 1 Security, El Segundo, Los Angeles Co. | 18- 3-14 | 7,220 | sd. sh. drlg. |
| Republic Pet. Co., No. 3 El Segundo, Los Angeles Co. | 18- 3-14 | 7,401 | reaming |
| Republic Pet. Co., No. 4 El Segundo, Los Angeles Co. | 18- 3-14 | 6,980 | sd. sh. drlg. |
| Republic Pet. Co., No. 5 El Segundo, Los Angeles Co. | 18- 3-14 | 6,271 | sd. sh. drlg. |
| Royalty Service Corp., No. 1 El Segundo, Los Angeles | 7- 3-14 | 7,000 | sd. sh. drlg. |
| Union Oil Co., No. 1 El Segundo, Los Angeles Co. .... | 18- 3-14 | 7,685 | O.S. drlg. |
| Leora Oil Co., No. 1 Hermosa, Los Angeles Co. ..... | 31- 3-14 | 4,074 | sd. sh. drlg. |
| Bryan & Young, No. 1 Lawndale, Los Angeles Co. .... | 20- 3-14 | 6,195 | survey. hole |
| Signal Finance Co., No. 1 Hawthorne, Los Angeles Co. | 10- 3-14 | 9,395 | cleaning out |
| Imperial Gypsum, No. 1 Moneta, Los Angeles Co. .... | 35- 3-14 | 7,209 | repair rig |
| C. C. M. Oil Co., No. 15 Torrance, Los Angeles Co. .... | 31- 3-14 | 3,100 | milling |
| Two & One Oil Co., No. 6 Torrance, Los Angeles Co.. | 31- 3-14 | 2,961 | sd. sh. drlg. |
| Willett, P. W., No. 1 Torrance, Los Angeles Co. ..... | 18- 4-14 | 3,083 | sd. sh. drlg. |
| Hunt Oil Co., No. 1 Torrance, Los Angeles Co. ..... | 18- 4-14 | 4,520 | pump. 20 b.d. |
| Abrams, J., & Associates, No. 1 Torrance, Los Angeles | 16- 4-14 | 3,640 | redrlg. 3,450 |
| Calmore Oil Co., No. 1 Torrance, Los Angeles Co. .... | 31- 3-14 | 1,975 | sd. sh. drlg. |
| Swyer Oil Co., No. 1 Torrance, Los Angeles Co. ..... | 18- 4-14 | 2,573 | sd. sh. drlg. |
| McLaren & Associates, No. 1 Palos Verdes, Los Angeles | 27- 4-14 | 3,992 | repair. mach. |
| Country Club Oil Co., No. 1 Inglewood, Los Angeles Co. | 19- 2-14 | 798 | sd. sh. drlg. |
| Shell Oil Co., No. 4 Rubel, Inglewood, Los Angeles Co. | 8- 2-14 | 2,640 | swabbing |
| Standard Oil Co., No. 82 Inglewood, Los Angeles Co. | 8- 2-14 | 3,020 | sd. sh. drlg. |
| Shell Oil Co., No. 89 Reyes, Dominguez, Los Angeles | 33- 3-13 | 6,065 | sd. sh. drlg. |
| Shell Oil Co., No. 90 Reyes, Dominguez, Los Angeles | 33- 3-13 | 7,110 | sd. sh. drlg. |
| Union Oil, No. 48 Callender, Dominguez, Los Angeles | 33- 3-13 | 7,062 | flow. 650 b.d. |
| Union Oil, No. 50 Callender, Dominguez, Los Angeles | 33- 3-13 | 9,516 | sd. sh. drlg. |
| Union Oil, No. 52 Callender, Dominguez, Los Angeles | 33- 3-13 | 2,981 | sd. sh. drlg. |
| Union Oil, No. 53 Callender, Dominguez, Los Angeles | 33- 3-13 | 5,650 | sd. sh. drlg. |
| Union Oil Co., No. 9 Carson, Dominguez, Los Angeles | 33- 3-13 | 6,921 | sd. sh. drlg. |
| Barnsdall Oil Co., No. 10 Rosecrans, Los Angeles Co. | 20- 3-13 | 7,664 | O.S. drlg. |
| Shell Oil Co., No. 1 Rosecrans, Los Angeles Co. ..... | 20- 3-13 | 7,744 | cmtd. 7,450 |
| Hildon Oil Co., No. 1 Flood Control, Los Angeles Co. | 11- 4-13 | 6,043 | redrlg. 5,615 |
| Union Oil Co., No. 16 D.R., Playa Del Rey, Los Angeles | 27- 2-15 | 5,900 | sd. sh. drlg. |
| Barnsdall Oil Co., No. 1 Newhall, Los Angeles Co. ... | 26- 3-17 | 6,330 | O.S. drlg. |
| Holbrook Oil Co., No. 1 Newhall, Los Angeles Co. ... | 28- 4-16 | 4,020 | cleaning out |
| Selegna Oil Co., No. 3 Wilmington, Los Angeles Co. ... | 33- 4-13 | 2,588 | recmtd. 2,583 |
| General Pet. Corp., No. 2-E Wilmington, Los Angeles | 5- 5-13 | 2,629 | O.S. drlg. |
| General Pet. Corp., No. 4-E Wilmington, Los Angeles | 5- 5-13 | 2,630 | sd. sh. drlg. |
| General Pet. Corp., No. 1-F Wilmington, Los Angeles | 33- 4-13 | 2,600 | sd. sh. drlg. |
| General Pet. Corp., No. 1 Ford, Wilmington, L. Angeles | 4- 5-13 | 1,590 | sd. sh. drlg. |
| Getty Oil Co., No. 2 Wilmington, Los Angeles Co. ... | 33- 4-13 | 3,550 | C.P. 3,134 |
| Getty Oil Co., No. 3 Wilmington, Los Angeles Co. .... | 33- 4-13 | 2,250 | sd. sh. drlg. |
| Brain, Cooper & Haney, No. 1 Wilmington, L. Angeles | 33- 4-13 | 2,573 | sd. sh. drlg. |
| Bankline Oil Co., No. 1-T Wilmington, Los Angeles Co. | 33- 4-13 | 972 | sd. sh. drlg. |
| Bankline Oil Co., No. 7-1 Wilmington, Los Angeles Co. | 33- 4-13 | 3,425 | O.S. drlg. |
| Wilmington O. & D., No. 1 Wilmington, Los Angeles | 33- 4-13 | 3,539 | O.S. drlg. |
| Union Pacific R. R. Co., No. 1 Wilmington, Los Angeles | 4- 5-13 | 1,540 | sd. sh. drlg. |
| Wilbur, V. R. G., No. 1 Wilmington, Los Angeles Co. | 4- 5-13 | 2,782 | sd. sh. drlg. |
| Sovereign Oil Co., No. 3 Wilmington, Los Angeles Co. | 33- 4-13 | 4,271 | P.B. 3,625 |
| Pacific Western Oil, No. 1-P Wilmington, Los Angeles | 33- 4-13 | 3,492 | sd. sh. drlg. |
| Pacific Western Oil, No. 1-M Wilmington, Los Angeles | 33- 4-13 | 2,940 | sd. sh. drlg. |
| Royalty Service, No. 22-7 Wilmington, Los Angeles | 33- 4-13 | 1,571 | sd. sh. drlg. |
| Royalty Service, No. 2-C Wilmington, Los Angeles | 5- 5-13 | 2,810 | sd. sh. drlg. |
| Hall, F. C., No. 1 Wilmington, Los Angeles Co. ..... | 5- 4-13 | 1,275 | sd. sh. drlg. |
| Gauthier Oil Co., No. 2 Wilmington, Los Angeles Co. | 27- 4-13 | 2,685 | sd. sh. drlg. |
| Drillers, Inc., No. 1 Whittier, Los Angeles Co. ..... | 22- 2-11 | 1,065 | sd. sh. drlg. |
| Honolulu Oil Corp., No. 1 Puente, Los Angeles Co. .... | 15- 2-10 | 3,198 | gr. sd. drlg. |
| Richfield Oil, No. 2 Nutt, Montebello, Los Angeles | 5- 2-11 | 5,856 | flow. 250 b.d. |
| Richfield Oil, No. 1 Estrada, Montebello, Los Angeles | 5- 2-11 | 3,382 | redrlg. 3,082 |
| Universal Consd., No. 1-J Nutt, Montebello, L. Angeles | 5- 2-11 | 6,990 | hd. sd. drlg. |
| Texas Co., No. 1 Baldwin, Montebello, Los Angeles Co. | 6- 2-11 | 4,485 | sd. sh. drlg. |
| St. Helens Pet., No. 7 P.&B., Montebello, Los Angeles | 5- 2-11 | 5,883 | flow. 1,170 b.d. |
| Union Oil Co., No. 26 Montebello, Los Angeles Co. .... | 1- 2-12 | 3,275 | sd. sh. drlg. |
| Texas Co., No. 13-H.K., Long Beach, Los Angeles Co. | 19- 4-12 | .... | bldg. rig |
| Hobbs Pet. Corp., No. 1 Long Beach, Los Angeles Co. | 29- 4-12 | 2,960 | cleaning out |
| Hathaway, No. 2 Fulton, Santa Fe Springs, L. Angeles | 6- 3-11 | 4,650 | sd. sh. drlg. |
| Union Oil Co., No. 100 Santa Fe Springs, Los Angeles | 6- 3-11 | 9,835 | sd. sh. drlg. |
| Italo Pet. Corp., No. 1 Santa Fe Springs, Los Angeles | 5- 3-11 | 4,525 | idle |
| Julian & Criswell, No. 1 Walnut, Los Angeles Co. ... | 5- 2-9 | 1,350 | hd. sh. drlg. |
| Terry, George, No. 2 Crane, Huntington, Orange Co. .. | 2- 6-11 | 3,958 | pump. 121 b.d. |
| Petroleum Co., No. 5 Wilson, Huntington, Orange Co. | 2- 6-11 | 3,719 | cmtd. 2,735 |
| Re-Mine Oil Co., No. 2 Huntington, Orange Co. ..... | 2- 6-11 | 4,375 | sd. sh. drlg. |
| Texas Co., No. 4 V.M., Huntington, Orange Co. ..... | 34- 5-11 | 4,637 | pump. 25 b.d. |
| Richrow Oil Co., No. 2 Huntington, Orange Co. ..... | 34- 5-11 | 4,195 | sd. sh. drlg. |
| Orco Oil Co., No. 5 Huntington, Orange Co. ..... | 2- 6-11 | 4,697 | sd. sh. drlg. |
| South Basin Oil Co., No. 94 Huntington, Orange Co. .. | 2- 6-11 | 4,060 | pump. 30 b.d. |
| Richfield Oil, No. 1 Community, Huntington, Orange | 34- 5-11 | 3,947 | pump. 185 b.d. |
| Richfield Oil, No. 3 Anchor, Huntington, Orange Co. | 34- 5-11 | 4,652 | pump. 10 b.d. |
| Commander Oil Co., No. 1 Newport, Orange Co. ..... | 29- 6-10 | 6,013 | br. sh. drlg. |
| Fullerton Oil Co., No. 20 Brea, Orange Co. ..... | 2- 3-10 | 5,154 | redrlg. 4,198 |
| Standard Oil Co., No. 62 Emery, West Coyote, Orange | 13- 3-11 | 4,200 | sd. sh. drlg. |
| Bandini Pet. Co., No. 1 East Covote, Orange Co. .... | 17- 3-9 | 2,795 | pump. 198 b.d. |
| Dolicia Oil Co., No. 2 East Coyote, Orange Co. ..... | 24- 3-10 | 3,534 | cmtd. 3,150 |
| Tide Water A. O. Co., No. 52 East Coyote, Orange Co. | 13- 3-10 | 3,487 | redrlg. 1,815 |
| Graham & Loftus, No. 1 East Coyote, Orange Co. .... | 18- 3-9 | 4,326 | rig. to pump |
| Standard Oil Co., No. 2-8 East Coyote, Orange Co. ... | 22- 3-10 | 3,685 | will deepen |
| Shell Oil Co., No. 1 Mathis, Anaheim, Orange Co. .... | 23- 4-10 | 3,630 | sd. sh. drlg. |
| Joseph, Arthur, No. 1 Richfield, Orange Co. ..... | 29- 3-9 | 1,752 | sd. sh. drlg. |
| Principal Oil Co., No. 1 Richfield, Orange Co. ..... | 36- 3-9 | 1,570 | sd. sh. drlg. |
| Bachman Pet. Co., No. 1 Richfield, Orange Co. ..... | 29- 3-9 | 3,810 | rig. to pump |
| Union Oil Co., No. 29 Chapman, Richfield, Orange Co. | 30- 3-9 | 8,610 | fish. D.P. |
| Union Oil Co., No. 43 Chapman, Richfield, Orange Co. | 29- 3-9 | 3,425 | pump. 100 b.d. |
| Union Oil Co., No. 44 Chapman, Richfield, Orange Co. | 29- 3-9 | 3,210 | sd. sh. drlg. |
| Union Oil Co., No. 45 Chapman, Richfield, Orange Co. | 29- 3-9 | 1,851 | sd. sh. drlg. |
| Standard Oil Co., No. 2-24 Kraemer, Richfield, Orange | 32- 3-9 | 4,550 | rig. to pump. |

# OKLAHOMA

Week Ending March 6

## NORTHERN OKLAHOMA

### Beckham County

**Carter Oil Co. No. 1 Garrett,** NE cor. sec. 11-7n-25w. Drlg. 965 ft.

**Mid-American Oil Co. No. 1-A Biscoe,** SW cor. sec. 28-8-22w. Drlg. 165 ft.

### Caddo County

**Clyde Becker et al No. 1 Pharris,** SE SE NW sec. 24-6-12w. Derrick corners.

### Cleveland County

**W. R. Hollenbeck No. 1 Norman,** NW NW NE sec. 17-9-2w. Rig.

### Coal County

**Ruwoldt & Couch No. 1 McMillan,** SW cor. sec. 10-1s-8. T.D. 1,210 ft.; S.D. for csg.

### Creek County

**J. E. Crosbie, Inc. & Sinclair Prairie Oil Co. No. 1 Bailey,** NE NW NW sec. 28-15-7. Prue 2,425 ft.; T.D. 2,430 ft.; setting csg.

**M. W. Mosier et al No. 1 Holcomb,** SE SW NW sec. 19-18-8. T.D. 2,929 ft.; fsg.

**Comoil Oil Co. et al No. 1 Hall,** SW SW NE sec. 2-15-7. Drlg. 845 ft.

### Garfield County

**Arab Oil Co. No. 1 Harkendorf,** NE cor. sec. 34-20-3w. T.D. 2,702 ft.; hole 10 per cent off; P.B. 1,400 ft.; W.O.C.

### Garvin County

**Hayes Drlg. Co. No. 1 Howell,** NW SE NW sec. 34-1-1. Rig.

### Grady County

**Western White Lily Oil Co. No. 1 Stover,** SE SW NW sec. 33-3n-7w. R.U.R.

### Harmon County

**Lionlko Trust, Ltd. No. 1 Crosnoe,** SE SE SW sec. 14-3n-25w. Dry Granite Wash 3,325-33 ft.; T.D. 3,340 ft.; lost cir.; recementing surface pipe.

**Penn State Oil Co. No. 1 Cole,** C W½ SW NW sec. 21-2n-26w. Loc.

### Hughes County

**W. W. Bussett No. 1 Field,** C NW SW sec. 11-9-11. S.D.

**Carson Oil Co. No. 1 Lyter,** NE NW SW sec. 31-8-12. Penn. Caney, 3,870 ft.; Miss. Caney 4,080 ft.; drlg. 4,410 ft.

**Mid-Western Prod. Co. No. 1 Hill** C SE NW sec. 13-9-9. 22,000,000 ft. gas at 2,884 ft.; dry sand, 2,890-2,904 ft.; T.D. 2,942 ft.; S.D.

**C. J. Wrightsman No. 1-A Diamond,** NE NE SE sec. 33-9-9. Gilcrease 2,880 ft.; drlg. 2,990 ft.

### Kay County

**S. A. Brown et al No. 1-A Harris,** SW SW NE sec. 14-25-1e. S.D.

**Ritz Oil & Gas Co. No. 1 State,** NW NE SW sec. 16-29-2w. Miss. 4,040 ft.; drlg. 4,300 ft.

### Kiowa County

**Argus Pet. Co. No. 1 Osborne,** NW cor. NE sec. 9-7-16w. T.D. 1,225 ft.; fsg.

**McWhirter & Francis No. 1 Padgett,** NE NE NW SE sec. 3-5-17w. S.D. 610 ft.

### Latimer County

**Cheyenne Oil Co. No. 1 Wilson,** C SE SE sec. 15-5-18. Sd. 3,006-30 ft.; dry; sd. 3,240 ft.; stain of oil; drlg. 3,250 ft.

### Le Flore County

**Lynch et al No. 1 Tidwell,** C NW SE sec. 17-3-22. 10-in. 2,246 ft.; T.D. 2,340 ft.; S.D.

### Lincoln County

**Anderson-Prichard Oil Corp. No. 1 Colon,** C N½ SE SW sec. 28-17-4e. Chattanooga 4,190 ft.; sd. 4,234 ft.; Sylvan 4,237 ft.; Viola 4,289 ft.; Dense 4,320 ft.; Dolomite 4,340 ft.; first Wilcox 4,345 ft.; showing gas; cored some saturation.

### Logan County

**Anthony & Marshall No. 1 Fruin-Eckman,** SE SE SW sec. 4-16-1e. T.D. 4,959 ft.; S.D.

**Harry Blackstock No. 1 Prince,** SE NE SW sec. 11-17-3w. Osw. 5,275 ft.; Miss. 5,530 ft.; drlg. 5,632 ft.

**Helmerich & Payne et al No. 1 Ruck,** C NE SE sec. 9-19-2w. R.U.S.T.

### Muskogee County

**A. D. Spears et al No. 1 Robbins,** NW cor. sec. 20-15-20. Turkey Mt. sd. 1,677-84 ft.; Arbuckle 1,710 ft.; T.D. 1,811 ft.; S.S.O.; S.D.

### Noble County

**Lincoln Oil Co. et al No. 1-A Neil,** NE cor. sec. 15-23-2w. D.C. & P.

### Osage County

**Norbla Oil Co. No. 1 Osage,** NE NE SW sec. 13-23-6. T.D. 760 ft.; fsg.

### Pawnee County

**Forest Dev. Corp. No. 1 Greisel,** C NW NE sec. 21-21-5. Pink lime 3,210 ft.; Bart. zone 3,224 ft.; cored saturation; T.D. 3,271 ft.; showed drilling fluid on D.S.T.; setting 7-in. at 3,231 ft.

**Forest Dev. Corp. No. 1 Markham,** SW NE SE sec. 10-21-5e. Rig.

### Payne County

**Bill Riddle No. 1 Van Zandt,** NW NW SE sec. 16-18-3e. Loc.

### Pittsburg County

**Okla. Dist. Oil Co. No. 1 Beeler,** NE NE SW sec. 7-7-14. Union Valley 4,943 ft.; Cromwell 4,968 ft.; drlg. 5,138 ft.

### Pontotoc County

**E. H. Moore et al No. 1 Muse.** SW NE SE sec. 33-2n-7. Flowed 2.83 B.O. in 4 hrs. at 4,183 ft.; Viola 4,310 ft.; T.D. 4,360 ft.; set 7-in. 4,337 ft.; W.O.C.

**L. K. Sandback et al No. 1 Whittaker,** NW NE SE sec. 31-4-6. Cellar.

### Pottawatomie County

**Champlin Ref. Co. No. 1 Buckler,** SE NE NE sec. 7-6n-4e. M.I.R.

**Mid-Continent Pet. Corp. No. 1 Logan,** NE NE SE sec. 31-11-5. Shot off drill pipe at 3,252 ft.; P.B. 3,194 ft.; set whipstock, 3,256 ft.; ran Eastman survey; abd.

**Mid-Continent Pet. Corp. No. 1-A Logan,** NE NE SE sec. 31-11-5. Spudded.

**B. H. Rowlett et al No. 1 Burson,** SW SW NE sec. 21-9-4e. Loc.

### Pushmataha County

**Erle Halliburton et al No. 1 Bagwell,** SW NE NE sec. 30-3s-15e. T.D. 840 ft.; set 13-in. 773 ft.

### Seminole County

**Amerada Pet. Corp. et al No. 1 Fore A,** SW cor. sec. 12-9-7. Drlg. 765 ft.

**J. E. Hall et al No. 1 White,** SE NW SE sec. 30-6-8. Drlg. 380 ft.

**J. H. Hudson et al No. 1 Tanyan,** SE SE SW sec. 32-10-7. Rig.

**R. M. Purcell No. 1 Gilliland,** SE SE SW sec. 24-11-7. Loc.

**Sinclair Prairie Oil Co. No. 1 Rossanna,** NW NW SW sec. 28-10-8. Br. L. 2,945 ft.; Booch 3,075 ft.; drlg. 3,239 ft.

**Papoose Oil Co. No. 1 Yarber,** SW SW NW sec. 15-11-8. Calvin 2,000 ft.; drlg. 3,030 ft.

### Texas County

**Cabot Carbon Co. No. 1 Castro,** C NE sec. 19-3n-17ecm. Drlg. 2,356 ft.

**Missouri Valley Gas Corp. No. 1 well,** C sec. 17-6n-14ecm. Rig.

### Washita County

**John Koberg No. 1 Harms,** NW NW NE sec. 6-10-16w. Bldg. drk.

**L. P. McWhirter No. 1 fee,** SW cor. sec. 34-8-19w. T.D. 1,754 ft. S.D.

## SOUTHERN OKLAHOMA

### Atoka County

**A. J. Sanders No. 3 Redden,** SE SW SW sec. 19-1n-15e. T.D. 1,260 ft.; S.D.

### Carter County

**Helmerich & Payne No. 1 Wolverton,** SE NE NW sec. 21-3s-1w. Loc.

**Lyle-Wham Dev. Co. No. 1 Jackson,** NE SW SW sec. 26-5s-1e. Drlg. 864 ft.

### Choctaw County

**Cooper & Branstetter No. 1 Bell,** C NW NE sec. 29-6s-17. T.D. 1,151 ft. (cor.); S.D.

### Comanche County

**Frank Scott No. 1-A Kuntz,** SE NE SE sec. 21-4-11w. T.D. 2,210 ft.; S.D.

**C. V. Morris No. 1 Young,** SE NE SE sec. 24-3n-10w. T.D. 822 ft.; fsg.

### Jefferson County

**Buffalo Oil Co. No. 1 Crownover,** SE SE NW sec. 21-6s-6w. Drlg. 1,400 ft.

**Dodson, Wells-Pierson No. 1 Key,** SE SE NW sec. 6-8s-6w. Drlg. 54 ft.

**Fields et al No. 1 Trout,** NE NE SW sec. 5-8s-7w. R.U.R.

**Heenan & Coe et al No. 1 Rose,** C SW SW sec. 1-5s-5w. Drk.

**Massad & Swansberger No. 1 Barrett,** NE cor. SE SE sec. 14-6s-6w. Sd. 1,530-34 ft.; S.O.; cored shale at 1,534-38 ft.; S.D.

### Johnston County

**Patton et al No. 1 McCrummens,** SW SW NE sec. 16-1s-6e. Drlg. 1,155 ft.

### Love County

**W. H. Riddle et al No. 1 Johnson,** C SW SE cor. sec. 20-8s-2w. T.D. 4,009 ft.; waiting for tools; will deepen.

**Sinclair Prairie Oil Co. No. 1 Stockton,** SE SE SW sec. 26-6s-2w. T.D. 6,583 ft.; P.B. 6,927 ft.; fsg.

### Marshall County

**Stuart & Taylor No. 1 Chestnut,** NE cor. sec. 23-8s-5e. T.D. 803 ft.; U.R. csg.

### Murray County

**Power Oil Co. et al No. 1 Lancaster Trust,** C SW NE sec. 10-1s-2e. T.D. 3,438 ft.; fsg.

**J. Ben Russell No. 1 fee,** SE SE NW sec. 9-2s-3e. T.D. 1,025 ft.; drlg. up lugs.

### Stephens County

**Angle & Angle No. 1 Irvine,** SW SW NE sec. 24-1n-7w. Abd. loc.

**William Angle No. 1 Posey,** C NW NW sec. 8-1n-8w. Sd. 3,856 ft., odor of oil; packer 3,845 ft.; Halliburton test, water and mud; water sand 3,960-68 ft.; drlg. 3,995 ft.

**Carter Oil Co. No. 1 Harley,** C NE NE sec. 24-2s-4w. Gas sd. 2,190-2,210 ft.; dry sd. 2,770-85 ft.; sd. showing oil at 2,865-81 ft.; cd. 2,881-86 ft.; drlg ahead.

**Jack Cohen No. 1 Pierce,** NE NE NW sec. 24-2s-6w. T.D. 400 ft.; S.D. for fuel.

**Coline Oil Co. No. 1 Johnson,** SW SE NE NE sec. 1-2n-8w. T.D. 6,500 ft.; S.D.C.

**H. J. Edwards No. 1 Frederick,** SW cor. NE SE NW sec. 31-2n-8w. T.D. 2,800 ft.; W.O.C.

**Helmerich & Payne No. 1 Graham,** SW SW NE sec. 12-1n-5w. Bk. sd. 3,565-90 ft.; dry; drlg. 3,770 ft. in shale.

**B. F. Lundy No. 1 Caimes,** NW SW SE sec. 35-1n-4w. T.D. 35 ft.; setting surface pipe.

**Ed Parson No. 1 Olson,** C SW SW sec. 31-2-8w. Tstd. mud, wtr. and S.O.; sd. odor oil and gas 6,856 ft.; T.D. 7,000 ft.; S.D.

### Tillman County

**Indian Terr. Ill. Oil Co. No. 1 Hatler,** C SW NE sec. 32-2s-17w. T.D. 5,169 ft.; P.B. to 4,525 ft.; installing pmpg. equip.

**Lynn Oliver No. 1 Rilling,** SE SE NW sec. 22-1s-15w. T.D. 1,387 ft.; dry granite wash; S.D.

**Shirley Clum et al No. 1 Moricle,** NW NW SE sec. 16-4s-14w. T.D. 2,775 ft.; S.D.

# KANSAS

Week Ending March 6 (Descriptions are East unless marked otherwise)

### Barton County

**John Burton No. 1 Wendel.** NE cor. sec. 13-19-11w. K.C. 3,044 ft.; drlg. 3,050 ft.

**C. L. Carlock et al No. 1 Leibel.** SE NE SE sec. 18-18-11w. Anhy. 681 ft.; U.R. 12-in. at 685 ft.

George Dickey et al No. 1 Boger, SE SE NE sec. 15-16-13w. Cellar.

**Duwe & Brouk No. 1 Baker.** NE SE SW sec. 16-17-13w. Sil. 3,486 ft.; H.F.W. 3,491 ft.; T.D. 3,500 ft.

**Hendon Drlg. Co. and Morgan & Flynn No. 1 Robenselfer,** C NW sec. 7-18-15w. S.D. 430 ft.

**Indian Terr. Illm. Oil Co. No. 1 Schrapel.** SE SE NE sec. 26-20-11w. K.C. 3,025 ft.; set 6-in. csg.; C.O.

**S. L. Parks No. 1 Peach,** SE cor. sec. 24-16-14w. Drlg. 1,015 ft.

**C. L. Price et al No. 1 Kraft.** SW NW NE sec. 10-17-11w. Drlg. 1,855 ft.

**Stanolind O. & G. Co. No. 2 Burmeister,** NE NE SW sec. 33-19-11w. Cong. 3,315 ft.; Sil. 3,324 ft.; T.D. 3,342 ft.; bailed 1½ B.O. and ½ B.W.P.H.

**E. F. Wakefield et al No. 1 Scheuerman,** NE NE SW sec. 31-16-15w. Rig.

**Ralph Wixson and Union O. & G. Co. No. 1 Frederick,** NW cor. sec. 12-16-13w. Rig.

### Butler County

**Cox & McGinnis No. 1 Faulders,** SW SW NE sec. 27-25-3e. Sil. 3,269-77 ft.; T.D.; H.F.W. and D.&A.

**A. M. Landon et al No. 1 McCaig,** NE NE SE sec. 13-28-6. Drlg. 765 ft.

**Rex & Morris No. 1 Gilmore,** SE SE NE sec. 13-25-6. M.I. mch.

**C. L. Seibel et al No. 1 Bisagno,** SE SE NW sec. 24-25-6e. M.I. mch.

**Vickers Pet. Co. No. 1 Voth,** C N half NE NE sec. 32-24-4e. Loc.

### Chase County

**Propp et al No. 1 Fromm,** SE cor. sec. 29-18-9e. Fsg. 2,440 ft.

### Chautauqua County

**Brosius et al No. 1 Morris,** SW NW SW sec. 6-32-12. Chat 1,795 ft.; L. 2,047 ft.; T.D. 2,665 ft.; D.&A.

**W. M. McKnab No. 1 Griffith,** SW cor. sec. 11-32-10. Loc.

### Cowley County

**W. M. McKnabb No. 1 Community,** C NE NW sec. 14-34-3e. O.W.D.D.; drlg. 3,620 ft.

**W. M. McKnabb No. 1 Weldschmidt,** SW SW NW sec. 18-34-6e. Drlg. 2,440 ft.

**Tom Palmer No. 1-A Lowe,** SW SE SE sec. 3-32-5. R.U.

**Earl Wakefield et al No. 1 Knapp,** SW SW NW sec. 2-34-5e. T.D. 3,161 ft.; acd.; bailed 3 B.O. and 2 B.W.; drlg ahead.

**Ryan Consolidated Co. No. 1 Couch,** SW SW SE sec. 13-30-5. M.I.M.

**L. H. Wentz and Amerada Pet. Corp. No. 1 Rush,** NW SW SW sec. 36-34-6e. Drlg. 1,258 ft.

### Decatur County

**Winkler & Koch No. 1 Vessey,** C NW SE sec. 26-3-26w. Topeka 3,415 ft.; K.C. 3,460-3,826 ft.; S.D. 4,007 ft.

### Ellis County

**Empire O. & R. Co. No. 1 Hall,** SE cor. sec. 2-12-17w. Set 8-in. 2,884 ft.

**Ted Kors et al No. 1 Koblitz,** SE SW NW sec. 23-12-18w. Pay 3,694-98 ft.; swb. 48 B.O. and swbd. down; T.D. 3,699 ft.; acidized.

**Lario O. & G. Co. et al No. 1 Cress,** NE cor. sec. 13-11-17w. K.C. 2,962 ft.; Cong. 3,235 ft.; Simpson, 3,255 ft.; coring.

**Mazda Oil Co. No. 1 Henderson,** SW SW NE sec. 27-11-18w. R.U.

**Murphy Oil Co. No. 1 Wiesner.** SE SE SW sec. 12-14-19w. Topeka 3,175 ft.; U.R. 8-in. 3,185 ft.

**Noble Pet. Corp. No. 1 O'Laughlin,** NW NW SE sec. 13-12-19w. Set 20-in. 340 ft.

**Sunray Oil Co. No. 1 Befort.** NE cor. sec. 11-14-20w. Topeka 3,245 ft.; U.R. 6-in. 3,550 ft.

**Earl Wakefield No. 1 Putnam Mortgage Co.,** SE SE NW sec. 32-15-17w. Rig.

**Winkler & Koch No. 1 Jensen,** SW SW NE sec. 3-13-18w. S.D. 80 ft.

### Finney County

**Keith & Olson Drlg. Co. No. 1 Ely,** NW NW SW sec. 34-22-29w. Drlg. 2,270 ft.

### Grant County

**Columbian Fuel Co. No. 1 Gray,** C SE sec. 3-29-35w. Set 8-in. 2,500 ft.; W.O.C.

### Greenwood County

**Hollis et al No. 1 Boone,** NW NE NE SW sec. 21-26-12. S.D. 1,130 ft.

**Ohio Oil Co. No. 1 Schwab,** SE SW SE sec. 9-24-10. Set 5-in. csg. 2,740 ft.; C.O.

### Harper County

**Carter Oil Co. et al No. 1 Seihart Est.,** C SW NW sec. 4-34-8w. R.U.R.

### Harvey County

**Harburney Oil Co. No. 1 Schrag,** NW NW SE sec. 24-22-3w. S.O. 3,700 ft.; fsg. 3,711 ft.

### Haskell County

**Kuhn Bros. et al No. 1 Meredith,** C SW sec. 10-30-33w. O.W.D.D.; Bridge 2,520 ft.; C.O.

### Kearny County

**J. L. Murphy No. 1 Campbell,** NW NW SW sec. 32-25-35w. Anhy. 1,900 ft.; set 7-in. csg. at 2,780 ft.; S.D.

**J. L. Murphy No. 1 Masonic Home,** C NW sec. 1-26-36w. M.I.M.

### Kingman County

**Shell Pet. Corp. No. 1 McMichael,** C W½ W½ SW sec. 12-27-10w. Sil. 4,467 ft.; drlg. 4,487 ft.

### Lane County

**K. C. Bates No. 1 Bates-Nimocks,** C NW NE sec. 16-16-28w. Sil. 4,890-5,121 ft.; T.D.; D.&A.

### Logan County

**Rose Spring Drlg. Co. et al No. 1 Wright,** C SE SE sec. 12-15-35w. Drlg. 2,700 ft.

### Lyon County

**Young et al No. 1-A Murphy,** SE NW NE sec. 32-21-11. Fsg. 1,380 ft.

### McPherson County

**Bradley Bros. No. 1 Barnholt,** SW SW SE sec. 30-20-5w. B.R.

**Fred C. Frank et al No. 1 Doles,** SE NW NE sec. 12-19-1w. Spudded.

**Hutchinson O. & G. Co. et al No. 1 Berg,** SW SW SE sec. 15-20-3w. Fsg. 1,685 ft.

**Smith et al No. 1 Larson,** NW NW SW sec. 35-18-5w. M.I.M.

**Wamhoff et al No. 1 Nuse,** SE NE SW sec. 18-18-4w. R.U.R.

### Mitchell County

**Geo. Siedhoff et al No. 1 Greiss,** SW SW SE sec. 16-8-10w. S.D. 2,200 ft.

### Ness County

**Jones & Lane No. 1 Page Milling Co.,** SE SE NW sec. 36-18-26w. Cellar.

**Newton Dev. Co. No. 1 Tenny,** NW NW SE sec. 19-18-25w. Drlg. 3,810 ft.

### Pratt County

**H. V. Elwell et al No. 1 Fay,** NW NW SE sec. 15-27-14w. Whipstock 2,580 ft.; S.D.

### Reno County

**Atlantic Ref. Co. No. 1 Page.** SE NW NW sec. 19-23-7w. Topeka 2,583 ft.; drlg. 3,087 ft.

**Foraker et al No. 1 Hiett,** SE SW NE sec. 34-24-4w. C.O. 3,880 ft.

**Helmerick & Payne No. 1 Benson,** NE cor. sec. 5-25-6w. Viola 4,088 ft.; Wilcox 4,130 ft.; Sil. 4,183 ft.; cd. 4,185-95 ft.; sulfur odor.

**Helmerich & Payne et al No. 1 Evans,** NE NE SE sec. 29-24-6w. Rotary rig.

**Clyde Pulse No. 1 Payne,** SW NW NE sec. 4-22-7w. S.O. 3,244-52 ft.; drlg. 3,342 ft.

**Olson Drlg. Co. et al No. 1 Herriman,** NW cor. sec. 22-24-8w. Rig.

**Westgate-Greenland Oil Co. No. 1 O'Sullivan,** SW SW NE sec. 24-23-5w. Rig.

### Rice County

**Bradley Oil Co. et al No. 1 Ginter heirs,** NW cor. sec. 13-20-8w. Loc.

**Buckley No. 1 Bailey,** SW SW NW sec. 19-20-6w. S.D. 1,000 ft.

**Carlock et al No. 1 Deweese,** SW NW NW sec. 32-20-7w. T.D. 3,675 ft.; D.&A.

**Continental Oil Co. et al No. 1 Michels,** NE NE SW sec. 12-18-8w. Drlg. 2,530 ft.

**L. E. Douglass No. 1 Coyne,** NE SE SE sec. 24-21-8w. Drlg. 975 ft.

**Empire O. & R. Co. No. 1 Banterton,** SE SW SE sec. 11-18-8w. Sil. 3,246 ft. (cor.); T.D. 3,270 ft.; Pot. 268 B.O.

**Hanna et al No. 1 Brothers,** SE SE NW sec. 25-20-8w. H.F.W. 2,570-80 ft.; 8-in. 2,585 ft.; C.O.

**John Hanna et al No. 1 Fulton,** NW NW NE sec. 24-19-6w. Drlg. 205 ft.

**T. C. Johnson No. 1 Shubert,** SW cor. sec. 9-20-10w. Anhy. 474 ft.; drlg. 1,500 ft.

**Manning & Martin et al No. 1 Mathes,** SE SW NE sec. 27-21-8w. R.U.R.

**Fred Phillips et al No. 1 Hubenett,** SW NW SW sec. 23-20-6w. Bldg. rig.

**Roy Ramsey et al No. 1 Malone,** NW NW NE sec. 1-20-10w. Drlg. 700 ft.

**Union Oil & Refining Co. et al No. 1 Baker,** SW SW NE sec. 33-20-6w. B.R.

**W. E. Witt et al No. 1 Fair,** NW SE SE sec. 4-22-8w. Rig.

### Rooks County

**Basin Oil Co. No. 1 Baxa,** NE cor. sec. 23-9-17w. S.D. 2,000 ft.

**Buckner & Schoff No. 1 McConnel,** NE cor. sec. 34-6s-18w. S.D. 2,645 ft.

**Graham et al No. 1 Fike,** SW cor. sec. 9-9-17w. T.D. 3,301 ft.

**Jones Bros. No. 1 Wiss,** NW cor. sec. 8-10-18w. Drlg. 50 ft.

**J. H. Lester No. 1 Methene,** SE SE NE sec. 29-10-20w. Fsg. 3,422 ft.

**Snowden & McSweeney No. 1 Hindman,** C E½ NW sec. 35-7s-17w. H.F.W. 3,180 ft., T.D.; P.B. to 3,123½ ft.

### Rush County

**S. A. Murphy et al No. 1 Roth,** NW NW SW sec. 21-16-18w. Set 15-in. 445 ft.

### Russell County

**Empire O. & R. Co. No. 1 Vaughn,** SW cor. sec. 17-14-14w. S.O. 2,720-25 ft.; C.O.

**Equity Gas Co. No. 1 Harbaugh,** NW NE SW sec. 19-13-12w. Set 10-in. csg. 750 ft. W.O.C.

**Goldstein and Vernon Oil & Gas Co. No. 1 Steinert Estate,** NE SE NW sec. 34-15-15w. M.I.M.

**Shields et al No. 1 Gross,** NW NW SE sec. 5-15-13w. Loc.

### Saline County

**Ryan Consd. No. 1 Wuerth,** SW SW NW sec. 28-14-2w. Fsg. 1,870 ft.

### Sedgwick County

**Cameron et al No. 1 Smith,** SW SE SE sec. 13-27-2e. K.C. & S.O. 2,371-98 ft.; H.F.W. 2,446 ft.; drlg. 2,480 ft.

**Roxana Drlg. Co. et al No. 1 Woodman,** SW NW SW sec. 26-26-1w. R.U.R.

**E. M. Swearer et al No. 1 Thome,** SW SW NW sec. 19-28-1w. R.U.R.

### Stafford County

**Empire Ref. Co. et al No. 1 Jordon,** SW SW NW sec. 15-25-14w. Simp. 4,210 ft.; Sil. 4,252 ft.; T.D. 4,267 ft.; sulfur wtr.; P.B. acd.; Flowed 140 B.O. in 1½ hrs.

**Empire O. & R. Co. No. 1 O'Connor,** NE cor. sec. 17-24-15w. Sil. 4,083 ft.; sulfur odor; S.G. 4,119-29 ft.; R.U.S.T.

**Rose Spring Drlg. Co. et al No. 1 Gray,** NW cor. sec. 11-24-13w. M.I.M.

**J. E. Trigg and Vernon Oil & Gas Co. No. 1 Andrea,** SE cor. sec. 4-23-12w. R.U.R.

### Sumner County

**Graham et al No. 1 Dawson,** NW NW NW sec. 4-33-2w. Drlg. by at 3,000 ft.

**Olson Drlg. Co. et al No. 1 Barr,** SE cor. sec. 8-34-2w. B.R.R.

**Orcott & Stewart No. 1 Newton,** SE cor. sec. 21-30-2. O.W.W.D.; S.D. 930 ft.

**E. B. Shawver et al No. 1 Bryan,** C W½ W½ SW sec. 36-30-2w. B.R.R.

**C. H. Westfall et al No. 1 Rogers,** SW NW SW sec. 35-31-2w. Howard 1,950 ft.; Topeka 2,070 ft.; K.C. 3,155 ft.; Chat, 3,817 ft.; coring.

### Trego County

**Black Gold Oil Co. No. 1 Allman,** C SW SW sec. 34-14-21w. Drlg. 2,620 ft.

**Central Commercial Oil Co. No. 1 Burkett,** C SW sec. 15-11-22w. O.W.D.D.; T.D. 4,239 ft.; H.F.W.

### Woodson County

**Harper et al No. 1 Weidle,** SE SE NE sec. 10-24-14. Spudded.

**Reamer No. 1 Corn,** NE cor. sec. 31-26-15 Drlg. 1,820 ft.

**C. L. Sheedy No. 2 Fulhage,** C S½ NW SE sec. 27-25-14. Drlg. 725 ft.

# ARKANSAS

### Cleveland County

**J. R. Lockhart No. 1 Ida Robertson,** SE sec. 36-10-11w. T.D. 3,497 ft.; D.&A.

### Grant County

**Wallace & Staples No. 1 W. F. Davis,** SE SE NW sec. 23-6-15. Jnkd. first hole; drlg. 2,367 ft.

### Hempstead County

**Birdwell et al No. 1 Duckett,** SW NW SW sec. 24-13-24. S.D. 125 ft.; M.I.R.

**Root Pet. Co. No. 1 Lucey, E. Drake,** SE SE NW sec. 24-14s-24w. Drlg. 2,792 ft.

**Shephert & Todd et al No. 1 Smith,** NW SW SE sec. 11-11-25. S.D. 120 ft.

### Lafayette County

**Carl B. King Drlg. Co. No. 1 Eben H. Woolcott,** NE cor. sec. 36-19-26. R.U.

**A. M. Neeley No. 1 Meek,** NE NE NW sec. 35-19-25. Drlg. 3,159 ft.

### Little River County

**M. E. Sanderson No. 1 Pinning,** sec. 6-13-30. S.D. 500 ft.

**Joe Strahan No. 1 Dierks,** SW SE sec. 21-12-28. T.D. 1,979 ft.; S.D.

### Miller County

**Erwin & Leach et al No. 1 M.&P. Bank,** NE SE SE sec. 18-15-26. R.U.

### Nevada County

**Benedum & Trees No. 1 Block,** NE NE SE sec. 9-14-20. Cg. 4,627 ft.

**Benedum & Trees No. 2 C. C. Fincher,** SW SW NE sec. 10-14-20. T.D. 1,260 ft.; W.O.S.R.

**Benedum & Trees No. 3 C. C. Fincher,** sec. 10-14-20. 7-in. 2,157 ft.; W.O.C.S.

**Benedum & Trees No. 4 C. C. Fincher,** SE SW NE sec. 10-14-20.

**Benedum & Trees No. 4 Grove,** SE SW NW sec. 10-14-20. Drlg.

**Benedum & Trees No. 5 Grove,** NE SW NW sec. 10-14-20. Comp.; pump 320 B.P.D.; 50 bbls. water; T.D. 2,138 ft.

**Benedum & Trees No. 6 Grove,** SW NE NW sec. 10-14-20. Comp.; pump. 50 B.P.D.; T.D. 1,253 ft.

**Benedum & Trees No. 7 Grove,** NW SW NW sec. 10-14-20. Drlg. 500 ft.

**Benedum & Trees No. 8 Grove,** SW SW NW sec. 10-14-20. M.I. rig.

**Benedum & Trees No. 9 Grove,** NE NE SW sec. 10-14-20. Drk.

**Benedum & Trees No. 1 Mary Jackson,** NE NW NE sec. 9-14-20. T.D. 2,134 ft.; W.O.S.R.

**Perry Asphalt Co. No. 1 J. Haynie,** NE NE SE sec. 6-14-20. T.D. 1,206 ft.; S.W. on test; abd.

**Berry Asphalt Co. No. 2 J. Haynie,** NE SE SW sec. 6-14-20. Loc.

**J. C. Buckbee No. 1 Wortham,** SW SW NW sec. 29-13-21. T.D. 2,340 ft.; T.A.

**Hall & Briscoe No. 5 Ritchie,** 100 ft. N No. 2, sec. 10-14s-20w. Loc.

**A. M. Lacy No. 1 H. C. Bennett,** SW SE sec. 24-14s-22w. Drk.

**John R. Lewis No. 1 W. Haynie,** SW SW NE sec. 5-14-20. T.D. 1,169 ft.; arng. drill deeper.

**Walter Lowd No. 1 T. S. Grayson,** SW SW SE sec. 12-14-20. Drlg. 50 ft.

**W. E. Stewart No. 1 Mendenhall, cen.** SE NW NE sec. 1-14-20. 10-in. cmt. 104 ft.; R.U.R.

**Steel & Warmack No. 1 Wm. Haynil,** SE SE NW sec. 6-14-21. T.D. 1,183 ft.; W.O.S.R.

**G. H. Vaughn No. 1 Christopher,** SW SW SE sec. 3-14-20. Drk.

### Ouachita County

**Lion Oil Co. No. 1 Blanch Levey,** C W½ SW NW sec. 21-15-15. T.D. 5,349 ft.; D.&A.

**J. D. Reynolds No. 2 P. C. Grayson,** Lot 4, Blk. 10, Stephens Sur., sec. 31-15-19. Bailing; T.D. 1,508 ft.

### Pope County

**Arkansas-La. No. 1 Smith,** sec. 10-8n-21w. Drlg. 4,565 ft.

### Sevier County

**C. J. Benkley No. 1 Luther Tabler,** NW NE SE sec. 14-10s-29w. Move in spudder.

### Union County

**Dietrich et al No. 1 Aaronson,** NE SW NE sec. 3-18-16. R.U. and W.O.

**Lion Oil No. 1 Morgan,** sec. 18-18-17. O.W.D.D. (formerly Phillips Pet. Co.); drlg. 4,880 ft.

**Fenn-Ark. Corp No. 1 W. N. Raulston** 330 ft. S and E, NW NW SE sec. 12-17-14. Cg. oil sd.; arg. set csg.; 7-in. cmtd. 2,980 ft.; T.D. 2,983 ft.; W.O.C.S.

**S. H. A. Oil Corp. No. 1 H. D. Warren,** NE SW SW sec. 10-17-14. Drlg. out cmt. 3,342 ft. and W.O.S.R.; T.D. 3,342 ft.

# LOUISIANA

## NORTH LOUISIANA PROVEN

### Caddo-Rodessa

**J. W. Anson No. 1 N. S. Spearman,** NW SE sec. 14-23-15. T.D. 2,460 ft.; S.D. W.O.

**J. Edw. Jones No. 1-B Sharp,** 297 ft. N, 151 ft. W, C sec. 4-23-16. Comp.; flw. 580 B.P.D.; T.D. 6,048 ft.

**Lion Oil Rfg. No. 1 Holm,** NW SE SE sec. 9-23-15. Drk.

**Lyons & Neely No. 1 Noel,** SE cor. sec. 8-23-15. 7-in. cmt. 6,053 ft.; T.D. 6,084 ft.; W.O.C.S.

**Lyons & Neely No. 2 Noel,** SW SE SE sec. 8-23-15. Drlg. 5,004 ft.

**Magnolia Pet. Co. No. 11-A Caddo Lvy. Bd.,** SW cor. sec. 21-23-16. T.D. 5,920 ft.; D.S. stk.

**R. W. Norton No. 1 L. C. Harden,** NE sec. 20-23-16. Drlg. 4,648 ft.

**R. W. Norton No. 1 Payne,** C SE SE sec. 27-23-16. Cg. 8,420 ft.

**R. W. Norton No. 3 Starke,** 660 S and W C sec. 16-23-16. Drlg. 5,994 ft.

**Standard Oil of La. No. 1 Armistead Comm.,** SW SW SE sec. 4-23-16. Drlg. 4,614 ft.

**Standard Oil of La. No. 2 Armistead Comm.,** SE SE SW sec. 4-23-16. Drlg. 4,940 ft.

**Standard Oil No. 2 J. R. Harden,** NE NW NE sec. 16-23-16. Drlg. 5,998 ft.

**Standard of La. No. 1 Emma J. Parker,** NE SE NW sec. 9-23-16. 7-in. cmt. 5,914 ft.; T.D. 6,013 ft.; W.O.C.S.

**United Gas No. 6** fee 574, SW NE NW sec. 16-23-16. Loc.

**United Gas No. 1-A Mitchell,** 656 ft. N and W, SE cor. sec. 17-23-16. Drlg. 4,678 ft.

**United Gas Co. No. 4 W. M. Mitchell,** NW cor. sec. 20-23-16. Drlg. 5,688 ft.

**United Gas Co. No. 27 Rodessa O. & L. Co.,** NE NW sec. 15-23-16. 7-in. cmt. 5,980 ft.; T.D. 5,993 ft.; W.O.C.S.

**United Gas No. 5 Young,** NW sec. 27-23-16. 9-in. cmt. 2,095 ft.; W.O.C.S.

## N. LOUISIANA WILDCATS

### Bienville Parish

**Lide & Greer No. 1 Smelley,** 220 ft. N, 160 ft. W, SE SW NE sec. 13-16-5. Drlg. 7,450 ft.

**McDowell et al No. 1 Locke,** NE cor. sec. 9-15-10. S.D. fuel 3,330 ft.

**Seaboard No. 1 McGee,** 660 ft. N and E, C sec. 3-16-3. T.D. 7,315 ft.; perf. and tstg.

### Bossier Parish

**Arkansas-La. No. 1 R. Hardeman,** SE cor. sec. 6-17-11. Drlg. 3,300 ft.

**Arkansas-La. No. 1 Tom Wilson,** SW sec. 8-17-11. Drk.

**La. Pet. Corp. et al No. 1 Edwards Est.,** NW SW sec. 5-17-11. 7-in. cmt. 5,184 ft.; W.O.C.S.

**Haynes Drlg. Co. No. 1 A. J. Murff,** NE SE sec. 35-17-12. Drlg. 3,270 ft.

**Tidwell et al No. 1 Natting,** sec. 15-23-14. T.D. 2,954 ft.; S.D.

**Triangle Drlg. Co. No. 1-I Skannal,** NE cor. sec. 22-17-12. T.D. 5,170 ft.; tstg.

**Triangle No. 2 Ross Unit,** NW SW NW sec. 23-17-12. Drlg. 150 ft.

**Triangle No. 1-H Skannal,** SE SW SW sec. 23-17-12. Drlg. 4,600 ft.

**United Gas No. 1 H. G. Freeman, SE** cor. sec. 15-17-12. T.D. 5,166 ft.; perf.; tstg.

**United Gas No. 1 Henderson, NE cor.** sec. 36-17-12. Drlg. 3,863 ft.

**United Gas No. 1-H A. C. Skannal, NE** SE sec. 26-17-12. T.D. 5,144 ft.; tstg.; flw. rate 200 B.P.D.

United Gas No. 1-I Skannal, SW SW sec. 25-17-12. R.U.

### Caddo Parish

Bayou State Oil No. 1-A Brown, NE SE SE sec. 21-22-15. Comp.; pumped 10 B.P.D.; T.D. 1,010 ft.

Bayou State Oil No. 10-B Jolly, SE NE NE sec. 21-22-15. Drlg. 450 ft.

W. D. Chew No. 3 Rives, NE sec. 5-20-16. Drk.

W. D. Chew No. 4 U. S. Govn., NW sec. 5-20-16. Drk.

**Paul Cooper No. 1 Rodgers, NW SW SW** sec. 11-20-15. T.D. 2,215 ft.; W.O.S.R.

W. D. Chew No. 3 U. S. Govt., NW sec. 5-20-16. S.W. at T.D. 961 ft.; P.B. 956 ft.

C. C. Chews No. 3 Pender, SW NW SW sec. 11-20-15. R.U.

**Custer Oil Co. No. 1 Wemple, N½ NW sec. 14-20-15. S.D. 1,650 ft.; rig rep.**

R. E. Dalton No. 1 Noel Est., SW SE SE sec. 4-21-14. Lse. abnd.; T.D. 1,050 ft.

**DeMaggo et al No. 1 Huckaby, SE NE SE** sec. 26-22-16. T.D. 1,137 ft.; tstd. dry; arg. D.D.

**Gulf Ref. Co. No. 1 E. P. Hatcher, 660 ft. N and E, SW cor. SE¼ sec. 11-17-15.** Rg. Schlumberger; T.D. 8,994 ft.

Juan et al No. 1 Clara Hobbs, SW NW NW sec. 28-21-15. Drlg. 1,250 ft.

**B. F. Laney No. 1 Taylor, SW SE cor** sec. 17-21-14. 8-in. cmt. 891 ft.; T.D. 904 ft.; S.D.

**F. L. Luckett No. 1 Connell, SW NE sec 10-20-15. 6-in. cmtd. 2,174 ft.; T.D. 2,203 ft.; blg. to test.**

Robson Oil Properties, Inc., No. 1 Cupples NE sec. 24-16-13 (formerly Falcon Oil Co.). T.D. 4,000 ft.; washing to bottom.

**Rodgers et al No. 1 Thompson, NW SW SW** sec. 11-20-15. Cg. 2,204 ft.

**Stanolind No. 116 Dillon, SE SE sec. 14-21-15.** Comp.; pump 10 B.P.D.; T.D. 1,695 ft.

Stanolind No. 117 Dillon, NE SE sec. 14-21-15. T.D. 1,683 ft.; acidized; W.O.

Stanolind O. & G. No. 118 Dillon, SE sec. 14-21-15. 10-in. cmt. 97 ft.

**J. J. Thompson No. 1 Gamm, NE SW NW** sec. 35-21-15. Tstg. S.W.; S.D.; T.D. 2,225 ft.

### Claiborne Parish

Lisbon Oil Co. No. 1 J. W. Burgess, NE SE NE sec. 3-20-5w. Drlg. 3,795 ft.

**Lyons & Neely No. 1 H. E. Patton, NE** NW SW sec. 36-21-5w. Drlg. 2,116 ft.

**Max Hirsch et al No. 1 C. O. Ferguson, 2,640 ft. N, 1,000 ft. E. SW cor. sec. 29-22-6w.** Cg. 6,096 ft.

Rae P. Oden No. 1 W. H. Patton, SW SE SE sec. 36-21-5w. Drlg. 4,064 ft.

**Red Iron Drlg. Co. No. 1 H. E Patton,** S½ SW NE sec. 36-21-5w. Drlg. 3,136 ft.

**Standard Oil of La. No. 1 Baker, 660 S&E** NW sec. 27-19n-7w. Drlg. 2,577 ft.

United Gas et al No. 1 W. Brown, sec. 1-19-6. O.W.D.D.; drlg. 5,753 ft.

### De Soto Parish

**Benedum & Trees No. 1 Clifton, NE NW** sec. 33-13-12. Drlg. 2,520 ft.

**Chamberlin et al No. 1 Lanier, 280 ft. N and E, SW NE sec. 29-11-11. R.U.**

Fite No. 1 Ramsey, NW sec. 36-11-11. T.D. 2,800 ft.; cg. 2,970 ft.

**Gulf Ref. Co. No. 36-A Jenkins, SE cor. sec. 2-12-12. Arg. set 7-in.; T.D. 2,389 ft.**

**Peral Oil Co. No. 1 Joyner, SE NW SW sec. 28-11-12. Cmtd. 8-in. 2,885 ft.; T.D.** 2,897 ft.; prep. tstg.

**Rio Rajo Oil Co. No. 7 Prudhomme, SE** cor. sec. 20-12-11. Drlg. 2,200 ft.

**Stillers et al No. 2 Jenkins, 330 ft. S and W, NE SE NW sec. 35-13-12. S.D. 2,503 ft.; fuel.**

R. M. Sundby No. 1 A. P. Garland, NW SW sec. 7-14-14. Drlg. 3,300 ft.

### Grant Parish

**Tri State Lse. & Dev. Co. No. 1 Edenborn Est., NE SE SE sec. 13-7-4w.** Drlg. 2,775 ft.

### LaSalle Parish

**Lee Oil Corp. No. 1 Tullos, 150 ft. S and W NE NE sec. 26-10-1e.** T.D. 1,529 ft.; prep, run csg.

**Urania O. & G. Co. No. 1 Urania, NW sec.** 7-10-2. T.D. 1,403 ft.; rng. csg.

### Morehouse Parish

So. Carbon Co. No. 3 Miles, NE sec. 36-21-4e. R.U.

### Ouachita Parish

H. L. Woods No. 1 Union, NE sec. 17-19-3e. R.U.

**United Gas No. 2 Morris, SE sec. 36-19-3e. Loc.**

United Carbon No. 7 Neston, NE cor. sec. **32-19-4e.** Cmt. 6-in. 2,187 ft.; W.O.C.S.

### Red River Parish

Gulf No. 39 E. T. Robinson, NW cor. sec. 25-13-11. Drk.

**Perla Oil Co. No. 1 DeLong, 330 ft. S and E. C sec. 23-12-10. Fsg. 2,800 ft.**

### Richland Parish

**Gulf Ref. Co. No. 15 R. R. Rhymes et al.** sec. 32-17-6e. Drlg. 9,672 ft.

### Sabine Parish

**Earl F. Fox No. 1 Blankenship, NE SE** NW sec. 13-9-12. T.D. 3,305 ft.; D.S. test dry; S.D. W.O.

**Kirk-Green-Way Inc. No. 1 Whitney Corp., NW NE sec. 8-9-13. Straighten hole;** T.D. 2,070 ft.

**Posey Sisters Oil Co. No. 3 Burkett, NE** cor. sec. 10-9-13. D.&A.; T.D. 3,234 ft.; will drill deeper.

**Power Oil Co. No. 1 Belton, 990 W 330 S NE sec. 31-9-13w. 6-in. cmt. 1,660 ft.; W.O.C.S.**

Prod. O. & G. Co. No. 1 Edwards Est., SE NW SW sec. 29-9-13. T.D. 1,530 ft.; arng. run csg.

Prod. O. & G. Co. No. 1 Lynch, SW NE SW sec. 29-9-13. Pumped off; acid.; T.D. 1,608 ft.

**Willis & Dowden No. 1 Lynch, SW NE SW sec. 29-9-13. T.D. 1,608 ft.; arg. tst.**

### Union Parish

Interstate Natl. Gas Co. No. 63 fee, SE sec. 3-21-3e. Loc.

**So. Carbon Co. No. 17 Grayling, SW cor. sec. 21-21-4e. R.U.**

**So. Carbon No. 18 Grayling, SE cor. sec 20-21-4e.** Loc.

### Webster Parish

Magnolia No. 2 D. G. Cox, SW SE NE sec. 22-21-10. Loc.

Ohio Oil Co. No. 1 S. P. D. Coyle, NW SE SW sec. 23-21-10. Drlg. 5,122 ft.

Ohio Oil Co. No. 2 R. M. Coyle, SE sec. 22-21-10. R.U.

**Ohio Oil Co. No. 3 A. H. Gray Acct. No. 2, NW sec. 26-21-10. 9-in. cmt. 5,546 ft.;** W.O.C.S.

**Ohio Oil Co. No. 2 A. J. Hodges, NE NW** SW sec. 23-21-10. Drlg. 5,400 ft.

L. R. Skidmore No. 1 Barnett, NE NW SW sec. 29-17-9. Drlg. 2,510 ft.

**Standard Oil Co. of La. No. 1 E. Firdecker, 1,320 ft. E, 1,316 ft. S, NW cor. sec. 2-17n-9w. 7-in. cmt. 5,790 ft.; W.O.C.S.;** T.D. 7,202 ft.

United Gas No. 2 Davis, 660 ft. S and E. NW cor. sec. 23-21-10. Cg. 8,531 ft.

United Gas No. 1 Mixon, SE SW sec. 22-21-10. T.D. 8,231 ft.; W.O.

Woodley Pet. Co. No. 4-B Gray, NE NE sec. 27-21-10. 9-in. cmt. 5,524 ft.; T.D. 5,595 ft.

## SOUTH LOUISIANA FIELDS

### Ansela Butte—St. Martin Parish

**Stanolind O. & G. Co. No. 1 Patin, sec. 46-9s-5e. 13⅜-in. csg. 1,514 ft.; T.D.** 5,430 ft. (cor.); P.B. 2,658 ft.; T.D. 6,147 ft.; D.S. stuck.

### Bayou Boullion—Iberville Parish

S. C. Yingling No. 1-A State, sec. 13-9s-8e. T.D. 3,272 ft.; oil sd.; rng. csg.; P.B. 1,550 ft.

### Bayou Coeotriz—Terrebonne Parish

Shell Pet. Corp. No. 1 Pelican, sec. 35-17s-15e. Driving piling.

### Bayou Mallett—Acadia Parish

Superior Oil Prod. Co. No. 5 Breelley, sec. 52-7s-1e. Drlg. sh. 6,101 ft.

### Black Bayou—Cameron Parish

Shell Pet. Corp. No. 37 Watkins, sec. 8-12s-12w. R.U.

### Cankton—St. Landry Parish

Superior Oil Prod. Co. No. 1 Brasseaux, sec 24-8s-3w. Drlg. clay 112 ft.

### Caillou Island—Terrebonne Parish

Texas Co. No. 33 State, sec. 20-23s-20e. T.D. 4,830 ft.; P.B. and strkd.; T.D. 4,358 ft.; 7⅝-in. csg. 3,865 ft.; I.P. 417 B.P.D. through ¼-in. ck.

### Charenton—St. Mary Parish

Pan American Prod. Co. No. 3 Laws Realty Co., sec. 25-13s-9e. Drk.

**Pan American Prod. Co. No. 1 South** Coast Corp., sec. 30-13s-10e. S.D. 6,934 ft.; high wtr.

### Choctaw—Iberville Parish

Standard Oil Co. No. 9 Myrtle Grove, sec. 53-9s-11e. T.D. 3,455 ft.; P.B. 3,160 ft.; to sdtrk.

### Cameron Meadows—Cameron Parish

Burton Sutton Oil Co. No. 16 Sch. Ld., sec. 16-14s-13w. Set 10¾-in. csg.; T.D. 4,851 ft.; P.B. 3,650 ft.; W.O.C.

Burton Sutton Oil Co. No. 18 School Ld., sec. 16-14s-13w. Drk.

**Magnolia Pet. Co. No. 19 Cameron Meadows, sec. 16-14s-13w. T.D. 4,714 ft.; recvd. 2,500 ft. of P.L.O. on D.S.T.; 9⅝-in. csg.** 4,694 ft.; P.B. 4,708 ft.; blew out, caught fire, bridged; bldg. drk.

### Darrow—Ascension Parish

Humble O. & R. Co. No. 4 Community, sec. 33-2e. Drlg. sh. 3,036 ft.

### Dog Lake—Terrebonne Parish

Texas Co. No. 4 State, sec. 5-22s-16e. T.D 5,342 ft.; sdtrkd. at 5,185 ft.; T.D. 6,147 ft.; P.B. and sdtrkd.; drlg. sh. and L. 6,009 ft.

### Four Isle—Terre Bonne Parish

Texas Co. No. 8 State, Drlg. sd. rock 8,602 ft.

### Fausse Point—Iberia Parish

**Texas Co. No. 2 State, sec. 35-11s-8e. 7-in. csg. 6,444 ft.; cd. salt 7,151-57 ft.;** 1,021 ft. of 4⅝-in. csg. 7,157 ft.; perf. csg. 6,303-6,553 ft.; flwg. 18 B.P.D. by heads through ⅜-in. ck.

### Garden Island—Plaquemines Parish

Texas Co. No. 22 State, sec. 37-23s-32e. 18⅝-in. csg. 541 ft.; drlg. sd. 6,005 ft.

### Gillis—Calcasieu Parish

**Foha Oil Co. No. 17 O. H. Castle, sec. 14-9s-8w.** T.D. 7,046 ft.; 7-in. csg. 7,046 ft.

Foha Oil Co. No. 1 First Natl. Bank, sec. 13-9s-8w. R.U.

**Texas Co. No. 12 Nickerson, sec. 1-9s-8w.** R.U.

Union Sulphur Co. No. 12 Barbe, sec. 1-9s-8w. T.D. 9,101 ft.; blew out; caught fire; cratered.

Union Sulphur Co. No. 13 Barbe, sec. 1-9s-8w. Drlg. 6,018 ft.

Union Sulphur Co. No. 14 Barbe, sec. 1-9s-8w. Bldg. drk.

Union Sulphur Co. No. 7 Castle, sec. 14-9s-8w. Drk.

Union Sulphur Co. No. 4 Kaufman, sec. 12-9s-8w. Loc.

Union Sulphur Co. No. 12 Powell Lbr. Co., sec. 12-9s-8w. R.U.

### Hackberry—Cameron Parish

W. T. Burton No. 1 Kennedy, sec. 22-12s-10w. Loc.

W. T. Burton No. 1 Rosella Vincent, sec. 22-12s-10w. Drlg. sd. 2,815 ft.

Gulf Oil Corp. No. 23 Erwin, sec. 12-12s-10w. R.U.

Independent Oil Co. No. 1 Sanner, sec. 29-12s-10w. T.D. 1,775 ft.; 5-in. csg. 1,775 ft.; swbg.

Stanolind O. & G. Co. No. 6 Carter, sec. 22-12s-10w. Sd. and sh. 4,203 ft.

Stanolind Oil & Gas Co. No. 1 J. H. Duhon, sec. 27-12s-10w. Drlg. sh. 4,198 ft.

Stanolind O. & G. Co. No. 25-B Gulf Land fee, sec. 15-12s-10w. R.U.

**Stanolind O. & G. Co. No. 1 M. J. Muller,** sec. 23-12s-10w. 7⅝-in. csg. 4,617 ft.; cg. wtr. sd. 5,503 ft.

**Stanolind O. & G. Co. No. 18 School Land,** sec. 16-12s-10w. Drlg. sh. 3,338 ft.

Superior Oil Prod. Co. No. 1 C. Hebert Estate, sec. 33-12s-10w. T.D. 6,553 ft.; abd.

Sutton Joint Interest No. 1 Ellender, sec. 22-12s-10w. R.U.

**Texas Co. No. 20 State, sec. 12-12s-10w.** T.D. 7,989 ft.; W.O.C.

**Union Sulphur Co. No. 42 Walkins, sec** 13-12s-10w. T.D. 2,990 ft.; 7-in. csg. 2,981 ft.; swabbed dry, pulling liner.

### Iowa—Jefferson-Davis Parish

Shell Pet. Corp. No. 22 Heyd, sec. 13-9s-7w. T.D. 1,201 ft.; W.O.C.

### Jeanerette—St. Mary Parish

Herton Oil Co. No. 2 Barrilleaux, sec. 59-13s-8e. R.U.

Herton Oil Co. No. 5 Carter, sec. 38-13s-9e. 10¾-in. csg. 1,495 ft.; W.O.C.

Teche Oil Co. No. 1 Eaves, sec. 70-13s-9e. Drlg. sh. 6,707 ft.

Teche Oil Co. No. 1 LeBourgeois, sec. 59-13s-8e. R.U.

### Jennings—Acadia Parish

A. C. Glassell et al No. 1 J. Trusel, sec. 42-9s-2w. Drlg. sh. 5,125 ft.

**Lake City Oil Co. No. 2 Jennings Synd.,** sec. 46-9s-2w. T.D. 3,990 ft.; fsg.

**T. C. Markly No. 1 Gourney, sec. 42-9s-2w.** Drlg. sd. 4,260 ft.

Shell Pet. Corp. No. 2 Community, sec 40-9s-2w. T.D. 7,185 ft.; 7-in. csg. 7,181 ft.; cg. sdy. sh. 7,390 ft.

**Stanolind O. & G. Co. No. 18 Houssiere-Latrielle,** sec. 47-9s-2w. 8⅝-in. csg. 5,358 ft.; drlg. sdy. L. and sh. 5,570 ft.

Superior Oil Prod. Co. No. 1 Iowa-Jennings sec. 41-9s-2w. T.D. 6,489 ft.; 7-in. csg. 6,489 ft.

**Superior Oil Prod. Co. No. 2 Leckcit, sec.** 42-9s-2w. Drlg. sh. 6,657 ft.

### Lafitte—Jefferson Parish

Texas Co. No. 6 Lafitte, sec. 20-17s-24e. T.D. 1,771 ft.; lost returns; moved drlg. barge 135 ft. N of first hole; drlg. sh. and L. 7,210 ft.

Texas Co. No. 6 Rigolettes, sec. 39-17s-24e. Drlg. sh. 8,671 ft.

Texas Co. No. 1 State-Bayou Norman, sec. 28-17s-24e. Dredging canal.

### Lake Barre—Terrebonne Parish

Texas Co. No. 37 Lake Barre-State. Drlg. sh. 10,520 ft.

### Lake Hermitage—Plaquemines Parish

Gulf Oil Corp. No. 6 LaFourche, sec. 11-8s-25e. Drlg. sd. 5,600 ft.; no report.

### Lake Pelto—Terrebonne Parish

Texas Co. No. 15 State, sec. 17-23s-18e. Drlg. sd. 6,944 ft. No report.

### Leesville—Lafourche Parish

**Gulf Oil Corp. No. 1-A City of New Orleans, sec. 35-21s-22e. T.D. 5,831 ft.; D.S.** stuck.

**Gulf Oil Corp. No. 4 City of New Orleans sec. 25-21s-22e. T.D. 5,945 ft.; P.B. 1,078** ft.; T.D. 3,691 ft.; I.P. 300 B.P.D.; pmpg.

Texas Co. No. 59 L.L.&E., sec. 27-21s-27e. Drlg. sh. 3,324 ft.

Texas Co. No. 62 Leesville, sec. 29-17s-24e. T.D. 3,508 ft.; rng. cg. test.

### New Iberia—Iberia Parish

**Wm. Heilis No. 7 Bernard, sec. 54-12s-7e.** Drlg. sd. and gravel 174 ft.

**Wm. Heilis No. 4 Bolivar, sec. 56-12s-7e.** Drlg. 1,075 ft.

**Wm. Heilis No. 4 Bullock & Burke, sec.** 25-12s-7e. T.D. 4,505 ft.; P.B. and sdtrk.; T.D. 4,401 ft.; P.B. and strkd.; drlg sh. 4,088 ft.

**Wm. Heilis No. 3 Schwing, sec. 57-12s-7e.** T.D. 885 ft.; R.U. heavy rig.

Texas Co. No. 3 Bryant, sec. 25-12s-7e. Bldg. road.

**Texas Co. No. 1 Clementine, sec. 25-12s-1e.** T.D. 6,731 ft.; P.B. 5,997 ft.; perf. csg. 5,987-96 ft.; abd.

Texas Co. No. 1 Dohoe, sec. 26-12s-7e. Drlg. sh. 3,404 ft.

### Port Barre—St. Landry Parish

Pan American Prod. Co. No. 3 Cormier, sec. 4-6s-5e. Cg. 7,215 ft.

### Roanoke—Jefferson Davis Parish

Shell Pet. Corp. No. 6 Kratzer, sec. 12-9s-4w. 10¾-in. csg. 2,454 ft.; T.D. 9,843 ft.; P.B. 8,881 ft.; rng. screen and lnr.

### Sorrento—Ascension Parish

Pan American Prod. Co. No. 8 United Land, sec. 22-10s-4e. Drlg. sh. and L. 3,597 ft.

Sorrento Oil Co. No. 1 Bernard, sec. 9-10s-14e. S.D. 6,262 ft.

Tri-State Dev. Co. No. 1 Duplessis, sec. 69-10s-2e. Drk.

### Starks—Calcasieu Parish

J. R. Turnbull No. 1 Industrial Lbr. Co., sec. 20-9s-12w. S.D. 6,433 ft.

### Sulphur—Calcasieu Parish

**Union Sulphur Co. No. 840 fee, sec. 19-9s-10w.** R.U.

**Union Sulphur Co. No. 841 fee, sec. 29-9s-8w.** T.D. 4,456 ft.; 7-in. csg. 4,436 ft.; P.B. 4,440 ft.; tstd. S.W.; sdtrkng. 4,195-4,210 ft.; drlg. S.W. sd. 4,515 ft.; no report.

**Union Sulphur Co. No. 842 fee, sec. 29-9s-10w.** T.D. 5,475 ft.; fsg.

### Tepetate—Acadia Parish

**Continental Oil Co. No. 9-A Homeseekers** Dev. Co., sec. 29-7s-2w. T.D. 8,323 ft. P.B. to sdrk. at 2,354 ft.; drlg. sh. 3,968 ft.

Continental Oil Co. No. 3 Johnson, sec. 30-7s-2w. Drlg. sh. 6,880 ft.

Continental Oil Co. No. 3 P. W. Miller, sec. 28-7s-2w. Loc.

Continental Oil Co. No. 4 P. W. Miller, sec. 28-7s-2w. Drk.

Continental Oil Co. No. 1 M. F. Ortego, sec. 30-7s-2w. T.D. 1,506 ft.; W.O.C.

### Valentine—Lafourche Parish

Pan American Prod. Co. No. 2 Harang, sec. 8-17s-20e. T.D. 6,912 ft.; rmg.

Pan American Prod. Co. No. 3 Harang, sec. 8-17s-20e. Drlg. sdy. sh. and L. 3,824 ft.

### White Castle—Calcasieu Parish

**Shell Pet. Corp. No. 4 Shingle, sec. 12-11s-12e.** Cg. sh. 8,896 ft.

## S. LOUISIANA WILDCATS

### Acadia Parish

**H. E. Dalton No. 1 Setting, sec. 17-7s-1w. S.D. 5,047 ft.; washing to bottom.**

**Humble O. & R. Co. No. 1 Nordyke, sec.** 23. 9⅝-in. csg. 6,843 ft.; drlg. sh. 8,732 ft.

### Allen Parish

**Humble O. & R. Co. No. 3 Bel, located in cratered hole, sec. 26-6s-7w. 10¾-in. csg. 165 ft.; T.D. 2,870 ft.; 7-in. csg. 2,766 ft.; shot well; failed to stop flwg. S.W.; S.D.**

### Avoyelles Parish

**Coastal Mineral Dev., Inc., No. 1 Purdy-Hess, sec. 25-2n-3e. Drk.**

**George Conover No. 1 Purdy-Hess, sec. 35-2n-3e. Drk.**

**Frost Oil Co. No. 1 Hines Lumber Co., sec. 3-3n-4e. Drk.**

### Calcasieu Parish

**D. D. Oil Co. No. 1 Lutcher Moore, sec.** 11-8s-13w. Drlg. sd. 7,630 ft.

### Cameron Parish

Magnolia Pet. Co. No. 1-A Dobbortine, sec. 9-15s-14w. Loc.

**Magnolia Pet. Co. No. 1 Gray Hrs., sec.** 8-15s-14w. T.D. 7,421 ft.; abd.

**Pure Oil Co. No. 1 Mallard Bay, sec. 33-13s-3w. 18⅝-in. csg. 1,499 ft.; 9⅝-in. csg. 7,906 ft.; T.D. 10,146 ft.; drill stem stuck; cut D.P.; well tried to blow out.**

**Southern Sulphur Co. No. 2 State, sec. 35-15s-10w. S.D. 1,410 ft.**

**Union Sulphur Co. No. 1 J. O. Hebert,** sec. 18-12s-8w. Cg. sd. 6,358 ft.

### East Baton Rouge Parish

**Cavalier Oil Co. No. 1 Vingnes, sec. 48-8s-2e. T.D. 6,690 ft.; D.S. stuck.**

### Evangeline Parish

Belle Chenney Springs Oil Co. No. 1 Belle Springs Land Dev. Co., sec. 10-2s-1w. Drlg. sh. 2,000 ft.

Continental Oil Co. No. 1 Pardee Lbr. Co., sec. 18-4s-1w. Drlg. sdy. sh. 2,738 ft.

**La. Crusader Oil Co. No. 1 Hattie Haas,** sec. 2-3s-5e. Drlg. sh. 7,294 ft.

### East Feliciana Parish

**Barnett Pet. Corp. No. 1 Tullis, sec. 34-2s-1w.** Drlg. sd. and L. 5,663 ft.

**Cavalier Oil Co. No. 1 Mells, sec. 58-4s-2w. T.D. 5,392 ft.; abd.**

**East Feliciana Oil No. 1 West & Budding, sec. 37-1s-1w. Spudded 15 ft. and S.D.**

### Iberia Parish

**Jefferson Lake Oil Co. No. 414 State Lake Pigneur, Twp. 12s-5e. Top salt 990 ft.;** set 10¾-in. csg. 5,095 ft.; top oil sd. 6,915 ft.; T.D. 6,930 ft.; 7-in. csg. 6,930 ft.; perf. csg.; tstg.

**Texas Co. No. 1-B State, Vermilion Bay** sec. 16-15s-6e. Abd. 10,622 ft.

### Jefferson Parish

Louisiana Crusader Oil Corp. No. 1 Langley, sec. 36-7s-5w. Loc.

**Triangle Oil Co. No. 1 Conroe, sec. 135** 12s-11e. T.D. 2,461 ft.; drill stem stuck.

### Jefferson Davis Parish

**Shell Pet. Corp. No. 1 Joe Sturdivant, sec. 25-10s-4w. 10¾-in. csg. 2,616 ft.,** 7-in. csg. 8,630 ft.

Stanolind O. & G. Co. No. 1 Calcasieu Natl. Bank, sec. 28-7s-3w. T.D. 9,139 ft.; blew out, hole bridged.

**Stanolind O. & G. Co. No. 1 United Life** Accident Co., sec. 16-11s-5w. Drlg. 260 ft.

### Lafourche Parish

**Foha Oil Co. No. 1 State Lake, sec. 65-17s-19e. 26-in. csg. 20 ft.**

Wm. Heilis No. 1 City of New Orleans, sec. 19-23s-23e. Drlg. sd. and L. 6,168 ft.

### Livingston Parish

**Coastline Oil Co. No. 1 Addison Trust Co., sec. 7-7s-3e. Drk.**

### Plaquemines Parish

Gulf Oil Corp. No. 1 Bay-Adams, sec. 35-32s-19. S.D. 3,567 ft.

Tide Water Oil Co. No. 2 Manhattan Fruit Co., sec. 34-21s-22e. Cd. sd. showing oil 6,429-38 ft.; T.D. 7,272 ft.; fsg.

### Rapides Parish

R. D. Webb No. 1 A. M. Brasher, sec. 22-4n-2w. Drlg. sh. and sd. 2,374 ft.

### St. Bernard Parish

Gulf Oil Corp. No. 1 Lake Lery, sec. 38-14s-14e. Drlg. sd. 5,236 ft.

Southern Sulphur Co. No. 2 State Lake Borgne, sec. 38-14s-15e. 13⅜-in. csg. 303 ft.; drlg. sh. 2,269 ft.

### St. Charles Parish

Amerada Pet. Corp. and La. Ld. & Expl. Co. No. 1 State, sec. 13-15s-20e. Loc.

### St. Landry Parish

Superior Oil Prod. Co. No. 2 A. Savole, sec. 26-8s-3e. 11¾-in. csg. 1,180 ft.; cg. sh. 5,980 ft.; T.D. 6,588 ft.; 7-in. csg. 6,588 ft.; perf. csg. 5,855-88 ft.; P.B. 5,820 ft. (cor.); I.P. 9 bbls. of oil and 3,850,000 ft. of gas daily.

### St. Martin Parish

Texas Co. No. 9 St. Martin, sec. 21-8s-7e 18⅝-in. csg. 106 ft.; drlg. sh. and L. 8,512 ft.

Texas Co. No. 3 State, sec. 14-10s-9e 18-in. csg. 101 ft.

### St. Mary Parish

Texas Co. No. 1 Horse Shoe Bayou, sec. 40-17s-9e. Drlg. sh. and L. 10,975 ft.

Texas Co. No. 1 State-Bateman Lake, sec. 21-16s-12e. R.U.

### Terrebonne Parish

Humble O. & R. Co. No. 1 H. J. Ellender, sec. 23-19s-19e. 9⅝-in. csg. 8,735 ft.; cg. sh. 9,709 ft.

### Vermilion Parish

Continental Oil Co. No. 1 O. C. Hebert, sec. 20-12s-3e. T.D. 11,732 ft.; circulating with mud; well tried to blow out; fsg. for stuck D.S.; hole cleaned to 10,680 ft.; set cmt.; P.B. to 10,800 ft.; sdtrkd. at 10,800 ft.; T.D. 12,216 ft., 5-in. csg. 11,795 ft.; flowed est. 5,000,000 ft. of dry gas per day through ¾-in. ck.; C.P. 3,950 lbs.; T.P. 3,500 lbs. Tubing and csg. sanded up; recovered tubing; milled bit off of 5-in. csg. at 11,975 ft.; fsg. for drill collar and bit at 11,795 ft.; failed to recover bit; P.B. 11,169 ft.; perf. csg. 10,368-76 ft.; swbd.; no shows of oil or gas; P.B.

### West Feliciana Parish

Cavalier Oil Co. No. 1 C. W. Mackie, sec. 59-3s-2w. Loc.

# TEXAS

Week Ending March 6

## GULF COAST FIELDS

### Raccoon Bend—Austin County

Humble O. & R. Co. No. 18-X R. W. Thompson, W. C. White Sur. T.D. 4,100 ft.; 5½-in. csg. 4,053 ft.

Humble O. & R. Co. No. 19 R. G. Paine, W. C. White Sur. Drlg. sh. and L. 3,470 ft.

### Hastings—Brazoria County

Frost, Lowery & Goldston No. 1 Cecil Brown, center Lot 12, B.B.B.&C. Sur. Spudded.

Humble O. & R. Co. No. 1-B Brown, Perry & Austin Sur. T.D. 6,130 ft.; 5½-in. csg. 6,129 ft.

Humble O. & R. Co. No. 3-B Brown, Perry & Austin Sur. Loc.

Humble O. & R. Co. No. 8-A Brown, Wm. Snyder Sur. R.U.

Humble O. & R. Co. No. 2 P. A. Holdale, Lot 16, B.B.B.&C. Sur. T.D. 6,080 ft.; I.P. 26 B.P.H.; ¼-in. ck.

Humble O. & R. Co. No. 1 King, H.T.&B. Sur. Drlg. sh. 5,250 ft.

Humble O. & R. Co. No. 1 C. M. Moody, Blk. 11, B.B.B.&C. Sur. Loc.

Navarro Oil Co. No. 2 Callahan, Lot 5, H.T.&B. Sur. No. 29. Loc.

Navarro Oil Co. No. 1 Callahan, Lot 6, H.T.&B. Sur. No. 29. Loc.

South Gulf Oil Corp. No. 1 M. L. Gann, C of 10-ac. blk., Blk. 21, H.T.&B. Sur. No. 29. 10¾-in. csg. 1,800 ft.; T.D. 6,080 ft.; running csg.

Stanolind O. & G. Co. No. 3-A Avitts, H.T.&B. Sur. No. 29. Loc.

Stanolind O. & G. Co. No. 2 Blount, H.T.& B. Sur. No. 29. 10¾-in. csg. 1,664 ft.

Stanolind O. & G. Co. No. 2 Brown, T.D. 6,080 ft.; 7-in. csg. 5,914 ft.; I.P. 600 B.P.D.; ¼-in. ck.

Stanolind O. & G. Co. No. 1 Condon, H. T.&B. Sur. No. 29. T.D. 6,085 ft.; rng. csg.

Stanolind O. & G. Co. No. 2 T. C. Edwards, Wm. Henry Sur. Drlg. sh. and L. 3,610 ft.

Stanolind O. & G. Co. No. 3 Law, H.T.&B. Sur. No. 36. Loc.

Stanolind O. & G. Co. No. 2 Long, H.T.&B. Sur. No. 29. R.U.

Stanolind O. & G. Co. No. 1 A. C. McKibben, H.T.&B. Sur. No. 29. Loc.

Stanolind O. & G. Co. No. 1 Miller, H.T.& B. Sur. No. 29. T.D. 6,080 ft.; 7-in. csg. 5,925 ft.

Stanolind O. & G. Co. No. 3 Surface, B. B.B.&C. Sur. R.U.

Stanolind O. & G. Co. No. 8 Williams, A. C.H.&B. Sur. No. 1. Drlg. sh. 2,361 ft.

### Lockridge—Brazoria County

Gulf Oil Corp. No. 1 Fred Reiss, J. W. Hall Sur. T.D. 8,164 ft.; rng. 7,000 ft. of 9⅝-in. csg.

Gulf Oil Corp. No. 1 Carrie Baker, J. W. Hall Sur. No. 68. Drlg. sh. 5,059 ft.

Shell Pet. Corp. No. 2 Ramsey State farm, J. W. Hall Sur. No. 68. Drlg. sh. 5,-895 ft.

Gulf Oil Corp. No. 1-A G. L. Wood et. al., Thomas Alsberry Sur. No. 4 Abst. No. 2. R.U.

Gulf Oil Corp. No. 3 Wilkes Smith, J. W. Hall Sur. R.U.

### Manvel—Brazoria County

Burton Drilling Co. No. 1 J. Kroll, center Lot 101, A.C.H.&B. Sur. No. 92. R.U.

E. A. Stone No. 1 Nichols, E. Little Sur. Drk.

Texas Co. No. 15 Belcher, H. N. Little Sur. T.D. 4,081 ft.; 7-in. csg. 4,063 ft.

Texas Co. No. 24 Houston Oil Field As. Lot 16, A.C.H.&B. Sur. R.U.

Texas Co. No. 1-B O. L. Rash, T. Spraggins Sur. Drlg. sh. 1,000 ft.

### West Columbia—Brazoria County

Texas Co. No. 15 Abrams, George Tenille Lge. Sur. 10-in. csg. 1,156 ft.; drlg. sdy. L. 3,225 ft.

### Old Ocean—Brazoria County

Harrison and Abercrombie No. 3 Bernard River, Charles Breen Sur. 9⅝-in. csg. 6,070 ft.; cmtd. 4,304 ft. of 7-in. csg. at 10,004 ft.; T.D. 10,427 ft.; flwg. 15 bbls. of fluid per hr. through ¼-in. ck.; oil sd. 10,263-10,300 ft.

### Heyser—Calhoun County

Humble O. & R. Co. No. 6 Elizabeth Welder, J. Maria Rios Sur. Loc.

Humble O. & R. Co. No. 5 E. H. Welder, J. M. Rios Sur. R.U.

Humble O. & R. Co. No. 8-A P. H. Welder, J. M. Rios Sur. T.D. 5,475 ft.; swbg.

Humble O. & R. Co. and Plymouth Oil Co. No. 11-B P. H. Welder, A. Sisneros Sur. T.D. 5,491 ft.; comp.; no gauge.

Portilla Drilling Co. No. 4-C P. H. Welder, A. Sisneros Sur. 10¾-in. csg. 975 ft.; drlg. 1,830 ft.

Portilla Drlg. Co. No. 12-C P. H. Welder, A. Sisneros Sur. Drk.

### Anahuac—Chambers County

Gulf Oil Corp. No. 5 W. Knowles, sec. 48, H.&T.C. Sur. Cg. sd. 6,931 ft.

Gulf Oil Corp. No. 2 Pommer, sec. 40, H &T.C. Sur. R.U.

Gulf Oil Corp. No. 3 G. C. Wilcox, sec. 48, H.&T.C. Sur. Cg. sd. 7,000 ft.

Gulf Oil Corp. No. 7 Knowles, W. T. Knowles Sur. R.U.

Gulf Oil Corp. No. 4 G. C. Wilcox, W. T. Knowles Sur. Bldg. drk.

Humble O. & R. Co. No. 10 Broussard-Hebert, sec. 59, H.&T.C. Sur. Drk.

Humble O. & R. Co. No. 11 Broussard-Hebert, sec. 59, H.&T.C. Sur. Loc.

Humble O. & R. Co. No. 12 J. E. Broussard, sec. 63, H.&T.C. Sur. Drk.

Humble O. & R. Co. No. 12-B White, J. McGahey Sur. Loc.

Humble O. & R. Co. No. 2 Broussard, sec. 63, H.&T.C. Sur. 9⅝-in. csg. 1,256 ft.

Humble O. & R. Co. No. 8 Engles, sec. 50, H.&T.C. Sur. T.D. 7,075 ft.; 5½-in. csg. 7,050 ft.

Humble O. & R. Co. No. 7 Grippon, sec. 51, H.&T.C. Sur. Drlg. sh. and sd. 6,-835 ft.

Humble O. & R. Co. No. 11-B White, J. McGahey Sur. T.D. 7,137 ft.; rmg.

Navarro Oil Co. No. 1 E. Drought, H.&T.C. Sur., sec. 46. R.U.

Sun Oil Co. No. 24 White, J. McGahey Sur. Drlg. sd. and clay 108 ft.

### Cotton Lake—Chambers County

Kirby Pet. Co. No. 1 W. D. Haden, Chambers Co. Sch. Ld. Sur. Drlg. sh. 2,830 ft.

Salt Dome Oil Co. No. 1-C Lawrence, S. Barrow Sur. R.U.

### Seabreeze—Chambers County

Sun Oil Co. No. 1-A White, J. G. White Sur. No. 128. O.W.D.D.; T.D. 9,055 ft.; cmtd. back to 8,343 ft.; rng. 7-in. csg.

Sun Oil Co. No. 1-B White, Wm. Mays Sur. 18⅝-in. csg. 1,226 ft.; drlg. sh. 8,-628 ft.

### Big Creek—Fort Bend County

Gulf Oil Corp. No. 74 T. W. Davis, M. Young Sur. T.D. 2,926 ft.; making D.S.T.

Jenal Oil Co. No. 3 Bryan et al., M. Young Sur. T.D. 3,418 ft.; slight oil show.

### Blue Ridge—Fort Bend County

Texas Gulf Prod. Co. No. 15 Blakely, E. Drews Sur. Drlg. sh. and L. 2,494 ft.

Telshaw-Reese and Echelson No. 1 Blakely, E. Drew Sur. Drk.

### Boling—Fort Bend County

Mack Hank Oil Co. No. 3-B J. R. Farmer, J. Scott Sur. Drlg. sh. 1,400 ft.

Mack Hank Oil Co. No. 4-C E. C. Farmer, J. Scott Sur. Drlg. sh. 2,700 ft.

Mack Hank Oil Co. No. 5-C E. C. Farmer, J. Scott Sur. Loc.

### Orchard—Fort Bend County

Gulf Oil Corp. No. 49 J. M. Moore, Germain Immg. No. 8. 13⅜-in. csg. 2,523 ft.; T.D. 4,743 ft.; W.O.C.

Gulf Oil Corp. No. 51 Moore, Mark Smith Sur. T.D. 2,390 ft.; making D.S.T.

### High Island—Galveston County

Stanolind O. & G. Co. No. 1-B Cade, H. Denman Sur. Drlg. sh. 3,270 ft.

Stanolind O. & G. Co. No. 61 Cade, N. Fitzsimmon Sur. Bldg. drk.

### Dickinson—Galveston County

Atlantic O. & Ref. Co. No. 1 G. O. Anderson, P. G. Merritt Sur. Loc.

Coast Pet. Corp. No. 5 Maco Stewart, W. K. Wilson Sur. T.D. 8,838 ft.; rng. csg.

Coast Pet. Corp. No. 6 Maco Stewart, W. K. Wilson Sur. Loc.

Diadem Oil Corp. of Texas No. 2 W. J. Way, F. P. Epperson Sur. Pits.

Diadem Oil Corp. of Texas No. 1 Pauline Frederick. Loc.

Humble O. & R. Co. No. 1-C Bayou Development Co., J. Sellers Sur. Drlg. sh. 2,315 ft.

Humble O. & R. Co. No. 15-A Maco Stewart, W. K. Wilson Sur. Loc.

Humble O. & R. Co. No. 16-A Maco Stewart, W. K. Wilson Sur. Drlg. sh. 3,919 ft.

Pure Oil Co. No. 4 J. W. Shelor, G. W. Banks Sur. Drlg. sh. 4,273 ft.

Pure Oil Co. No. 1 Sealy Hutchings, P. G. Merrett Sur. 10¾-in. csg. 1,826 ft.; drlg. sd. 6,075 ft.

Sinclair Prairie Oil Co. No. 1 W. Weems, W. K. Wilson Sur. Loc.

Stanolind O. & G. Co. No. 1 Dameani, W. K. Wilson Sur. Drlg. sh. 1,903 ft.

### Greens Lake—Galveston County

Sun Oil Co. No. 7 Hughes, sec. 26, W. C. M. Baker Sur. Drlg. sdy. sh. 3,977 ft.

### Silsbee—Hardin County

Humble O. & R. Co. No. 1 Mrs. M. L. Kirby, G. W. Brooks Sur. Loc.

Republic Prod. Co.-Houston Oil Co. No. 6 Brooks, G. W. Brooks Sur. 10¾-in. csg. 1,500 ft.; cg. 6,866 ft.

Republic Prod. Co.-Houston Oil Co. No. 7 Brooks, G. W. Brooks Sur. Perf. csg. 6,892-98 ft.; I.P. 76 bbls. in 24 hrs. through ½-in. ck.; T.P. 2,075 lbs.; C.P. 2,100 lbs.

Republic Prod. Co.-Houston Oil Co. No. 8 Brooks, G. W. Brooks Sur. 10¾-in. csg. 1,587 ft.; oil sd. 6,808-15 ft.; cg. oil sd. 6,937 ft.

### Clinton—Harris County

Stanolind O. & G. Co. No. 1 D. A. Oates, C. Martinez Sur., Abst. 543; 9⅝-in. csg. 6,771 ft.; drlg. sh. 7,384 ft.

### Mykawa—Harris County

West Prod. Co. No. 10 W. H. Irwin, W. B. Walker Sur. Drk.

### Pierce Junction—Harris County

Hamil & Smith No. 3 Saunders, B.B.B & C. Sur. T.D. 500 ft.; run csg.

Rio Bravo Oil Co. No. 30-A Settegast, P. H. Kopinan Sur. R.U.

### South Houston—Harris County

Stanolind O. & G. Co. Drlg. Dist. No. 16. 9⅝-in. csg. 1,474 ft.; drlg. wtr. sd. 4,-672 ft.

Stanolind O. & G. Co. Drlg. Dist. No. 28. 9⅝-in. csg. 1,441 ft.; drlg. sh. 4,478 ft.

Stanolind O. & G. Co. No. 6 First Natl. Bank, Callahan and Vince Sur. Drlg. clay 62 ft.

Stanolind O. & G. Co. No. 2 Green, H.T. &B. Sur. No. 6. Drk.

### Tomball—Harris County

Humble O. & R. Co. No. 2-B J. F. W. Cobb, J. Edwards Sur. T.D. 5,590 ft.; comp. for gas well.

Humble O. & R. Co. No. 1 Farris et al, W. Usner Sur. Drk.

Humble O. & R. Co. No. 2 Fred Martens, G. Lamb Sur. T.D. 5,559 ft.; 5½-in. csg. 5,554 ft.; I.P. 17 B.P.H. through ¼-in. ck.

Humble O. & R. Co. No. 5 H. S. Gebhard, W. Perkins Sur. T.D. 5,563 ft.; 5½-in. csg. 5,562 ft.

Humble O. & R. Co. No. 1 Tomball Townsite, Unit 13, R. Hubbard Sur. 9⅝-in. csg. 953 ft.

Shell Pet. Corp. No. 2 Beeler, J. Pruitt Sur. Drlg. sdy. sh. 2,805 ft.

Texas Co. No. 4 Ziegler, Wm. Hurd Sur. T.D. 5,581 ft.; 7-in. csg. 5,571 ft.

### Mauritz—Jackson County

Shell Pet. Corp. No. 1-B Mauritz, R.U.

### Amelia—Jefferson County

Glenn H. McCarthy No. 3-B Longe, H. Williams Sur. Drlg. sh. 3,357 ft.

Humble O. & R. Co. No. 1 A. Busceine, C Blk. 3, C. Williams Sur. Loc.

Humble O. & R. Co. No. 1 T. H. Crook, C. Williams Sur. T.D. 6,781 ft.; rng. 7-in. csg.

Humble O. & R. Co. No. 1 Freeman, C. Williams Sur. R.U.

Humble O. & R. Co. No. 1 Industrial Investment Co., Unit 1-B, C. Williams Sur. 13⅜-in. csg. 215 ft.

Humble O. & R. Co. No. 1 J. E. LaGrange, Lot 33, Blk. E, C. Williams Sur. Moving in drk.

Humble O. & R. Co. No. 1-B M. I. Lefler, Unit 19, Blk. E, C. Williams Sur. Loc.

Humble O. & R. Co. No. 1-C M. I. Lefler, Lot D, C. Williams Sur. Loc.

Humble O. & R. Co. No. 2 M. Lefler, Amelia Heights Subd., C. Williams Sur. 13⅜-in. csg. 226 ft.; drlg. 1,520 ft.

Humble O. & R. Co. No. 1 A. L. Nolan, Blk. E, Williams Sur. Loc.

### Big Hill—Jefferson County

Stanolind O. & G. Co. No. 1 Fitzhugh, McFaddin Sur. 10¾-in. csg. 1,861 ft.; T.D. 4,927 ft., oil sand, 7-in. csg. 4,913 ft. swbg.; 1,500 ft. of fluid in hole.

### Fannett—Jefferson County

Gulf Oil Corp. No. 1 Junker, W. A. Smith Sur. Drlg. sd. rock 5,115 ft.

### Nome—Jefferson County

Shell Pet. Corp. No. 4 Carpenter, M. Peveto Sur. T.D. 6,055 ft.; I.P. 329 B.P.D. through ¼-in. ck.

Shell Petroleum Corp. No. 5 Carpenter, M. Peveto Sur. T.D. 1,027 ft.

Sun Oil Co. No. 1 Long, J. Blair Sur. O.W.D.D.; T.D. 9,045 ft.; cutting and P.B. 5,660 ft.; to sdtrk.

Sun Oil Co. No. 6 Paggi, J. W. Kirby and W. H. Aldridge Sur. Loc.

Sun Oil Co. No. 7 Paggi, J. W. Kirby and W. H. Aldridge Sur. Loc.

Sun Oil Co. No. 1 A. J. Mouboules, J. Blair Sur. 10¾-in. csg. 1,062 ft.; drlg. sh. and L. 7,313 ft.

### Spindletop—Jefferson County

Unity Oil Co. No. 3 Oalswood Realty Co., Droeglet Sur. R.U.

### Hankamer—Liberty County

Gulf Oil Corp. No. 2-A Weiser, George Stengler Sur. Drlg. 1,312 ft.

### Hull—Liberty County

Bishop Oil Co. No. 1 C. R. Wilson, J. DeVore Sur. R.U.

D.&L. Production Co. No. 4 Mecon and Layton, J. DeVore Sur. R.U.

Eclipse Oil Co. No. 1 Barrow. T.D. 5,014 ft.; S.D.

Gulf Oil Corp. No. 23 Baldwin, J. Devore League Sur. Spudded.

Republic Prod. Co. No. 1 J. C. Baldwin, J. Devore Sur. Drlg. sh. 5,237 ft. No report.

### Esperson—Liberty County

General Crude Oil Co. No. 26 Moores Bluff. Spudded.

### Bay City—Matagorda County

Hamman Expl. Co. No. 1 J. H. Crocker, E. Hall Sur. 13⅜-in. csg. 1,260 ft.; 9⅝-in. csg. cmtd. at 6,500 ft.; T.D. 9,-575 ft.; 7-in. csg. 9,575 ft.; perf. csg. 8,806-19 ft., 8,832-36 ft., 8,944-8,949 ft., tstd. S.W.; set cmt. retainer at 8,200 ft.; perf. csg. 8,190-94 ft.; flwd. 650 bbls. through D.S.; W.P. 300 lbs.; grav. 37.

### Hawkinsville—Matagorda County

Sun Oil Co. No. 2 Craig, T. Williams Sur. Top salt 796 ft.; base salt 2,099 ft. 18⅝-in. csg. 2,174 ft.; 13⅜-in. csg. 3,700 ft.; T.D. 3,727 ft.; swbg.

### Markham—Matagorda County

Texas Gulf Prod. Co. No. 1 McDonald, I. &G.N. Sur. No. 7. T.D. 4,419 ft.; P.B. and sdtrkd.; drlg. sh. 3,712 ft.; no report.

Thompson Drlg. Co. No. 1 R. J. Sisk, Blk. No. 2. T.D. 426 ft.; W.O.C.

Turman Oil Co. et al No. 1 Hudson, H. Parker Sur. R.U.

### Van Vleck—Matagorda County

Skelly Oil Co. No. 2 W. P. Johnson, M. Cummins Sur. Loc.

Royal Oil Co. No. 1 Fine Holub, M. Cummings Sur. Drk.

Skelly Oil Co. No. 2 Rugely, I.&G.N. Sur. No. 8. 10¾-in. csg. 1,399 ft.; drlg. sh. 6,812 ft.

Skelly Oil Co. No. 1 First Natl. Bank, I.&G.N. Sur. No. 7. Cg. 7,000 ft.

### Conroe—Montgomery County

Houston Oil Co. No. 13 R. L. Cartwright, J. Davis Sur. T.D. 5,155 ft.; 7-in. csg. 5,137 ft.; comp.; no gauge.

### Ace—Polk County

Peyton Bros. et al No. 1 McDonald, P. A. Sublett Sur. R.U.

### Segno—Polk County

J. K. Dorrance No. 2 Wing Estate, I.&G.N. Sur. No. 15. Drlg. sh. 3,940 ft.

Humble O. & R. Co. No. 1 Kirby Lbr. Co., P. Garcia Sur. R.U.

### Quintana-O'Connor-Greta—Refugio County

Cosmo Pet. Co. No. 15 Heard, Lot 7. Spdd.

Floboots Oil Corp. No. 3-C O'Brien, Winifield Sur. 7-in. csg. 4,390 ft.; W.O.C.

Hewitt & Daugherty No. 40 Lambert, Swisher No. 7 Sur. Cg. 5,927 ft.

Hewitt & Daugherty No. 41 Lambert, Swisher No. 7 Sur. Drlg. sh. 5,215 ft.

Illinois Pet. Co. No. 2 Heard, Ximines Sur. Oil sd. 5,530-50 ft.

Illinois Pet. Co. No. 1 Wilson Heard, Ximines Sur. T.D. 5,909 ft.; I.P. 30 B.P.H.; ¼-in. ck.

Josey & Bruton No. 4-A Lambert, Swisher Sur. Drlg. sh. 5,312 ft.

Josey & Burton No. 4-A Lambert, Swisher Sur. Drlg. 5,275 ft.

Floboots Oil Corp. No. 3-C O'Brien, Winifield Sur. 7-in. csg. 4,390 ft.

Quintana Pet. Co. No. 3 Heard, Ximines Sur. T.D. 5,929 ft.; I.P. 552 B.P.D.; ¼-in. ck.

Quintana Pet. Co. No. 5 Heard, T. H. Webb Sur. Spudded.

Quintana Pet. Co. No. 40 Lambert, Swisher Sur. Loc.

Quintana Pet. Co. No. 43 Lambert, Swisher Sur. Loc.

Quintana Pet. Co. No. 46-A Tom O'Connor, J. M. Swisher Sur. No. 4. Drk.

Quintana Pet. Co. No. 11-E Tom O'Connor, Maine Sur., Blk. 39. T.D. 5,920 ft.; 5½-in. csg. 5,918 ft.; I.P. 1,366 B.P.D. through ⅝-in. ck.

Quintana Pet. Co. No. 3 Riley, M. J. Ximines Sur. Drlg. sh. 2,876 ft.

United Gas Corp. No. 37 Lambert, Swisher Sur. No. 6. T.D. 5,891 ft.; I.P. 315 B.P.D.

United Gas Corp. No. 38 Lambert, Swisher Sur. T.D. 5,915 ft.; tstg.

United Gas Corp. No. 40 Lambert, Blk. 43, Swisher Sur. Drlg. 2,030 ft. (cor.).

United Gas Co. No. 12 J. J. O'Brien. T.D. 6,318 ft.; run csg.; tstg.

### Keeran—Victoria County

Gulf Oil Corp. No. 10 Keeran Estate, M. DeLeon Sur. R.U.
Union of California No. 3 J. M. Keeran Estate, M. DeLeon Sur. Cmtd. sur. csg.

### Placedo—Victoria County

Barnsdall-American Liberty Oil Co. No. 3 E. G. Gray, S.A.&M.G. Sur. Drlg.
Barnsdall-American Liberty Oil Co. No. 9 J. M. Pickering et al., J. W. Black Sur. Drlg. 2,430 ft.
Barnsdall Oil Co.-American Liberty Oil Co., Lot 4, S.A.&M.G. Sur. T.D. 5,355 ft.
Crown Central Oil Co. No. 4 O. M. Lauder, S.A.&M.G. Sur. No. 6. T.D. 4,786 ft.; tstg.
Magnolia Pet. Co. No. 5 Charles Sklar, S A.&M.G. Sur. Drlg. 3,430 ft.
Shell Pet. Corp. No. 1 Houston Natl. Bank S.A.&M.G. Sur. No. 7. T.D. 4,765 ft.; 7-in. csg. 4,756 ft.
Sun Oil Co. No. 5 Marek, Lot 89, S.A.&M.G Sur. No. 8. 7-in. csg. 4,767 ft.
Superior-Gillespie No. 2 Joe Hosek, S.A.& M.G. Sur. No. 70. T.D. 828 ft.; W.O.C.
Westgate Oil Co. No. 6 F. F. Mieska, S.A. &M.G. Sur. No. 10. Drk.

### Clay Creek—Washington County

Sun Oil Co. No. 1 H. Lauter, N. Clay 7-in. csg. 7,445 ft.; T.D. 8,306 ft.; P.B. to csg. seat; to test.
Virginia Oil Co. No. 1 Joe Kenieczny, S. M. Williams Sur. Moving in drk.

### Five Corners—Wharton County

Texas Co. No. 6-B Pierce, J. Hyland Sur. Drlg. sh. 5,554 ft.

### Pickett Ridge—Wharton County

Texas Co. No. 1 J. Tlustos, H.&T.C. Sur. No. 192. Drlg. sd. 1,580 ft.

### Spanish Camp—Wharton County

Pelmont Oil Corp. et al No. 1 Lyle Logue, D. Wade Sur. T.D. 7,901 ft.; rmg.

### Withers—Wharton County

Texas Co. No. 21-C Pierce, Wm. Pettus Sur. 10¾-in. csg. 1,218 ft.; drlg. sh. and L. 4,805 ft.
Texas Co. No. 23-C Pierce, Wm. Pettus Sur. T.D. 5,563 ft.; 7-in. csg. 5,563 ft.; T.A.
Texas Co. No. 23-C Pierce, Wm. Pettus Sur. Drlg. sh. and L. 3,019 ft.

## GULF COAST WILDCATS

### Austin County

B. L. Hopkins No. 1 J. W. Recnecke, J Stephenson Sur. R.U.

### Brazoria County

Ohio Oil Co. No. 1 Hazel Roirt, D. McNeil Sur. No. 2. Abd. 6,952 ft.
Pure Oil Co. No. 1 P. M. Slade, S Austin Lge. T.D. 3,482 ft.; rng. 10¾-in. csg.
Texas Co. No. 2 Robbins, James W Brougham Sur. Drlg. sd. and sh. 2,052 ft.

### Calhoun County

Matagorda Oil Co. No. 1 Brundet, Tr. 4 Matagorda Island. 13⅜-in. csg. at 1,834 ft.

### Colorado County

Eden Oil Co. No. 1 Trulia Wells, M. Whitting and Osborne League. 10¾-in. csg. 650 ft.; abd. 5,805 ft.

### Fayette County

McNeil Pet. Co. No. 1 Dybla, A. Thompson Sur. 10¾-in. csg. 21 ft.; drlg. 2,210 ft.

### Galveston County

Shell Pet. Corp. No. 2 Maco Stewart, 4,400 ft. E of No. 1 J. Spillman Sur. 10¾-in. csg. 1,484 ft.; drlg. sh. 5,221 ft.

### Hardin County

T. S. Deskin No. 1 Mary B. Collier, O. C. Nelson Sur. Loc.
E. J. Kimball No. 1 Kettle Lbr. Co. Loc.

### Harris County

Farrel and Cox No. 1 Bender, N W is Sur. 6⅝-in. csg. 1,000 ft.; W.O.C.
R. W. Ford et al No. 1 W. A. and O. C. Pruitt, G. Brooks Sur. Loc.
George Lawrence et al No. 1 Zoppa, J Farwell Sur. 10¾-in. csg. 605 ft.; T.D. 6,525 ft.; P.B. to test sd. 6,206-26 ft.; stuck drill pipe at 1,500 ft.; S.D.
H. M. Harrell et al No. 1 F. N. Bullock, Charles Bowman Sur. R.U.
Stanolind O. & G. Co. No. 1 Warren Minerals, H.T.&B. Sur. No. 1. 7⅝-in. csg. 5,749 ft.; drlg. sh. 7,566 ft.
Texas Gulf Prod. Co. No. 1 Gillespie and Garnsey, Simon Contreras Sur. 10¾-in. csg. 1,438 ft.; drlg. sh. 5,887 ft.

### Houston County

American Liberty Oil Co. No. 1 J. D. Bean, D.W.R.R. Co. Sur. 10¾-in. csg. 1,796 ft. cg. sh. 5,991 ft.
Arthur Cameron No. 1 A. B. Spence, D. Aldrich Sur. Top Woodbine 6,048 ft.; cg. 6,053 ft.

### Jackson County

Texas Co. No. 1 T. A. Mauritz, Morris and Cummings Sur. R.U.

### Jefferson County

Humble O. & R. Co. No. 1 Jefferson Ld. Co., C. Hillibrant Sur. T.D. 8,232 ft.; 7-in. csg. 8,162 ft.; T.D. 8,458 ft.; circulating.

### Lavaca County

Welshire Union Oil Co. No. 1-A Pohl, F. Bass Sur. T.D. 3,250 ft.; P.B. 2,950 ft.; two tests failed; S.D.

### Liberty County

Kenco Oil Corp. No. 1 E. B. Pickett, H. T.&B. Sur. No. 19. 10¾-in. csg. 1,237 ft.; T.D. 6,846 ft.; hole clean; prep. to drill ahead.

### Matagorda County

Continental Oil Co. No. 2 Robbins, J. C. Franz Sur. 11¾-in. csg. 6,430 ft.; T.D. 8,908 ft.; prep. to run 8⅝-in. csg.
Glenn McCarthy No. 1 Foley, sec. 19, Susan Perkins Sur. 10¾-in. csg. 2,008 ft. T.D. 8,205 ft.; rmg. rathole.
Strake Pet. Co. No. 1 G. T. Sargent, L. E. Parker Sur. 13⅜-in. csg. 1,607 ft.; 9⅝-in. csg. 6,750 ft.; T.D. 9,503 ft.; abd.
United North and South Development Co., J. S. Cotton Sur. Coring sh. and sd. 8,055 ft.

### Polk County

Mayo et al No. 1 Catline Mayo, J. G. Loving Sur. 10¾-in. csg. 250 ft.

### Refugio County

Paul Meadows No. 1 Temple Lbr. Co., G. W. Main Sur. S.D. 6,760 ft.
Wynne Drlg. Co. No. 1 C. D. Roadche-J. Patrick & J. Downey Sur. Cg. 6,321 ft.

### Tyler County

Republic Prod. Co.-Houston Oil Co. No. 1 Hurd, N. Hurd Sur. Drlg. wtr. sd. 560 ft.

### Victoria County

Commonwealth O. & G. Co. No. 3 W. H. Bennett, J. Estuvan-Galbon Sur. Drlg. sh. 1,899 ft.
Magnolia Pet. Co. No. 1 Annie B. Wayne, T.&N.O. Sur. No. A-407. T.D. 2,531 ft.
Plymouth Oil Co. No. 1-A J. J. Welder, S. A. Beldina Sur. Abd. 3,941 ft.

### Walker County

Garland, Hartman & Page No. 1 Carey Ld. & Dev. Co., D. M. McDonald Sur. R.U.
Roswell Oil Co. No. 1 J. Bosborn, J. Jordan Sur. S.D. 520 ft.; abd.

### Waller County

Nine Blumenthal No. 1 Alex P. Kelley, S. H. Haddin Sur. Loc.
Sumas Prod. Co. of Austin No. 1 J. J. Menker. 10¾-in. csg. 300 ft.; drlg. sh. 4,428 ft.
H. E. Williams No. 1 T. C. Giddings Est., David Mouser Sur. Drlg. sh. 1,856 ft.

### Washington County

Smith & Schlinke No. 1 Woode, J. Clark Sur. S.D. 3,000 ft.

### Wharton County

Sam Harrison No. 1 Byerly, E.T.R.R. Sur. No. 27. Drlg. sh. and L. 6,218 ft.
J. F. Hutchins No. 1 J. J. Winsley, James Tumlinson Sur. R.U.
Texas Co. No. 1 Kluck, Jos. Hyland Sur. Drlg. sh. and L. 5,276 ft.
Texas Co. No. 1 E. A. Wheatherer, L. P. Ogden Sur. Drlg. sh. 5,428 ft.

## S. W. TEXAS WILDCATS

### Aransas County

Barnsdall Oil Co. No. 1-A Kate Edwards 330 ft. S line, Lot 85, 660 ft. SW No. 1. Wm. Lewis Sur. Set 10¾-in. csg. 1,408 ft.; drlg. 3,597 ft.

### Atascosa County

Frontier Oil Co. No. 1 Oppenheimer, John Sharp Sur. Set csg. 2,770 ft.; bailing.
F. Fuchs No. 1 Sanders, J. P. Garmon Sur. Drlg. 2,812 ft.
R. J. Roberts et al No. 1 Elder, Sur. 190. Drlg. 911 ft.

### Bee County

Dirks Bros. No. 1 Strouch, 990 ft. S line, 150 ft. W line, 50-ac. tr., sec. 19, Uranga grant. Drk.
J. R. Dougherty No. 1 Weiss, 1,300 ft. E line, 6,200 ft. N line, Uranga Gr. R.U. and S.D.
Illinois Pet. Co. No. 1 Hartzendorf, Geo. A. Kern Sur. T.D. 3,909 ft.; pumped brackish wtr., little oil; D.&A.
La Salle Pet. Co. No. 1 Ray, Anna Burk Sur. T.D. 5,400 ft.; S.D.
W. C. McBride, Inc., No. 1 Brown & Hansen, J. Pace Sur. Drlg. 2,936 ft.

### Blanco County

E. L. Nixon No. 1 Hornberger, 1,200 ft. S line, 300 ft. E line, Sur. 723. Drlg. 816 ft.

### Brooks County

Texas Gulf Prod. Co. No. 1 Proctor, 330 ft. S and E lines, Blk. 2, sec. 20, Los Almos and Loma Blanca Surs. Drlg. 2,647 ft.

### Burleson County

M. R. Exploration Co. No. 3 Fountain, Wm. Raleigh Sur. M.I.M.
Red Bank Oil Co. No. 2 Grann, 3,063 ft. N line, 1,900 W line, E. Santef Sur. M.I. Rig.

### Caldwell County

C. A. McDaniels No. 1 Trammel, H. Hunter Sur. Drk.
Exploration Co. No. 1 E. Band, S. Seale Sur. Reworking 2,430 ft.
C. A. McDaniels No. 1 Tinkle, S. Seal Sur. T.D. 2,681 ft.; P.D. 2,490 ft.; swbg. oil.
George Young No. 1 Schmidt, 1,265 ft. E line, 150 ft. S line, Williams Sur. Set csg. 1,362 ft.; W.O.C.

### Cameron County

Saxet Prod. Co. No. 1 Port Isabel Irr. Co., 600 ft. N line Loma Alta Lake, Sh. 29, Espiritu Santo Gr. Loc.
Stapper Petroleum Corp. No. 1 Port Isabel Irrigation Co., Blk. 17, P.I.I.Co. Subd., Santo Gr. T.D. 3,010 ft.; S.D.

### Duval County

Argo Oil Co. and Clopton No. 2 Smith-Corkill, Sur. 61. T.D. 3,140 ft.; P.B. 2,760-88 ft.; flwg. 250 B.P.D. fluid, 80% S.W., 20% oil.
A. J. Brinkoeter No. 1 Garcia, 2,310 ft. E line, 990 ft. N line, Sur. 212. Loc.
Clark & Cowden No. 3 Richardson, 2,310 ft. W line, 330 ft. S line, Sur. 5. Loc.
Frank Gravis No. 1 Vaello Puig, 330 ft. W line, 2,718 ft. S. line, 1,760.73-ac. tr., Sur. 250. Spudded.
C. K. Gravis No. 1 Holzapfel, N½ Sur. 42. Drlg. 321 ft.
Humble O. & R. Co. No. 1 C. D. Sevier, Sur. 329. Drlg. sd. 3,929 ft.
Magnolia Pet. Co. No. 1 D.C.R.C., 330 ft. S and W lines, lse., sec. 902. Loc.

### Edwards County

Auld, Dodson & Lyman No. 1 Rigsby, sec. 16. Loc.
I.T.I.O. No. 1 Love & Evans, sec. 66, Blk. 3, G.W.T.&P. Ry. Sur. (Workover). Prep. deepen from O.T.D. 3,002 ft. to 6,250 ft.

### Fayette County

McNeil Pet. Co. No. 1 Dybola, A. Thompson Lge. R.U.

### Goliad County

Rual Singer No. 1 C Wood, Geo. Villa Sur. Drlg. 5,067 ft.

### Gonzales County

M. S. Holliday No. 1 Edwards, W. W. Page Lge. Drlg. 1,356 ft.

### Guadalupe County

Lincoln Pet. Co. No. 1 Baenzinger, Mansola Sur. Set csg. 1,990 ft. Drlg. plugs.
J. B. Stoddard No. 1 Harris, G. DeWitt Sur. Top chalk 2,036 ft.; T.D. 2,146 ft.; acidizing.

### Hidalgo County

Dale Smith No. 1 Fairbanks & Young, Blk. 44, Porc. 46, jurisdiction of Reynosa. Drlg. 2,316 ft.
Rinehart et. al. No. 1 White, 7,500 ft. E line, 7,200 ft. N line, Ejidos Gr. Spudded; S.D.
Sun Oil Co. No. 1-A Sweeny Est., Lot 1, Wayne Wood Subd. No. 2. T.D. 6,598 ft.; stdg.

### Jim Hogg County

Cole Pet. Co. No. 1 Yeager, Sur. 452. Loc.
Gifford Oil Co. No. 1 Armstrong, Sur. 43. 5-min. D.S.T. 3,056-63 ft.; made 400 lbs. dry gas; sd. 3,056-61 ft.; drlg. 4,137 ft.
S. Payne No. 1 Holbien, 150 ft. N and W lines, Blk. 10, Sh. 2, Animas Gr. R.U.

### Jim Wells County

Arkansas Fuel Oil Co. No. 1 G. H. Bierstadt, Blk. 32, Reynolds Sur. Spudded.
R. G. Swiger No. 1 R. Adams, Sur. 122. T.D. 5,003 ft.; D.&A.
Tesmalis & Reese No. 1 Martha Earhart, 330 ft. S and W lines, 80-ac. tr., Suggs Sur. Loc.

### Karnes County

De Graff & Reele No. 1 Cochran, 460 ft. E line, 160 ft. S line, McConnell Lge. Drlg. 573 ft.
L. Glasscock No. 1 Conway, 146-ac. tr., J. Johnson Sur. Set csg. 3,308 ft.; T.D. 3,308 ft.; blew out making 10,000,000 ft. gas; comp.; gasser.
Victoria Drlg. Co. No. 1 John Yanta, J. Hardaway Sur. T.D. 1,511 ft.; S.D.
Victoria Drlg. Co. No. 1 Wm. Yanta, J. Hardaway Sur. M.I.M.

### Kerr County

S. W. Forrester No. 1 Baily, Brendle Sur. No. 408. Washing down 740 ft.

### Live Oak County

H. Coquat No. 1 L. Reagan, Santiago McGloin Sur. Drlg. 2,796 ft.
R. H. Feltner No. 2 Sanger, 330 ft. W line, 990 ft. N line, Sur. 385. Loc.
Loma Oil Co. No. 2 Cardwell, 95-ac. tr., Sparks Sur. Loc.
Marzo Oil Co. No. 1 Chestnut, L. Ayres Sur. Drlg. 386 ft.
Reynolds & Richardson et al No. 1 Geo. West, 330 ft. N and W lines, sec. 515, J. Poitevent Sur. Drlg. 2,965 ft.
R. B. Sanger No. 1 Adams, 330 ft. N and E lines, 80-ac. tr., Sur. 122. R.U.

### McMullen County

Big Rock Oil Corp. No. 1 Martin, Uleiting Sur. No. 6. S.D. 532 ft.
R. H. Feltner No. 1 Rhodes, NE ¼, Sec. 18. T.D. 3,000 ft.; D.&A.
Humble O. & R. Co. No. 1 Gouger, 330 ft. S and E lines, SE¼, sec. 46. Loc.
E. M. Jones No. 1 Ezell, 160-ac. tr., Sec. 3, Ezell Subd., Adams Sur. Blew out in gas sd. killed and capped; comp.; 5,000,000 ft. gas and some wtr.; T.D. 1,285 ft.
Rowan & Hope No. 1 Rhodes, NE¼ sec. 18, Seale & Morris Sur. M.I.M.

### Medina County

A. Chmel No. 1 Odem, 160 ft. W line, 493 ft. N line tr., Castro Sur. 174. M.I.M.
Gates, Hill & Mead No. 1 Kreisle, Sur. 908. Loc.

### Nueces County

Allen & Seaboard Oil Corp. No. 2 Chapman, 660 ft. S and W lines, sec. 38, 10-min. D.S.T. 6,462-71 ft. with 930 ft. water cushion, recovered. 1,080 ft. 42 grav. P.L.O. with W.P. 20 lbs.; cored oil sd. 6,464-83½ ft.; sh. 6,483½-6,507 ft.; T.D. 6,720 ft.; set csg. to perf. 6,464-83½ ft.
Cowan & Storey No. 1 Smith, Blk. 22, sec. 38, Flour Bluff and Encinal Garden Trs. Drk.
E. M. Jones No. 1 Cook, 2,500 ft. N line, 330 ft. E line, 546-ac. tr., Guadrilla Irr. Co. Sur. 139. Drlg. 1,236 ft.
Mills Bennett Prod. Co. No. 1 Lamb, 330 ft. E Mathis Highway, 330 ft. N line, 80-ac. tr., 527.4-ac. tr., V. Lopez de Herrera Sur. Drlg. 6,553 ft.
Sloan & Green No. 1 Cassens, sec. 36, Longorio Sur. R.U.
Southern Minerals Corp. No. 1 R. King, sec. 32, King Farm Lots. Drk.
Steve Paul No. 1 Smith, 1,650 ft. E line, 330 ft. S line, sec. 38, Flour Bluff Encinal Trs. Loc.
Baltic Drlg. Co. No. 1 Poenisch, Lot 2, Blk. 32, Flour Bluff Addn. (workover of former Hurlburt test). O.T.D. 6,250 ft.; R.U.; S.D.

### Real County

Sun Oil Co. No. 1 Dietert, 1,980 ft. E line, 660 ft. S line, sec. 7, G.W.T.&B. Sur. Drlg. 5,062 ft.

### San Patricio County

Buckingham Oil Co. No. 1 G. Davis, Sec 27. Loc.
W. B. Craig No. 1 Drainage Ditch, M. Remon Sur. Hd. sd. cap. 4,907-10 ft.; sd. 4,910-11 ft. S.O.; tested 1.030 ft. salty mud, taste of oil; testing again.
Eleanor Oil Co. No. 1 Davis, 208.8-ac. tr., G. Grover Sur. M.I.M.
Eleanor Oil Co. No. 1 Green Est., 1,674-ac. tr, T. T. Williamson Sur. Spudded; set surf. csg.; W.O.C.
Phillips Pet. Co. No. 1 Schmidt, sec. 81, Paul Subd. Drlg. 4,126 ft.
Windsor Oil Co. No. 1 Bissett, Tr. 1, Tivoli Subd., Crockett Sur. Loc.

### Starr County

J. H. Clopton No. 4 Tijerina, Lot 12, Sh. 14-C, Porc. 80. Drlg. 176 ft.
Dodd Trustee No. 1 Wood Estate, Porc. 84. Drlg. sh. 1,723 ft.
Donroy Oil Co. No. 1 Ramon, 2,400 ft. SE line, 150 ft. SW line, sec. 150. Drlg. 282 ft.

### Webb County

J. M. Anderson No. 1 Juarez, Blk. 13, Sur. 1,111. Set surf. csg. 20 ft.; W.O.C.
Bolling & Coffey No. 1 So. Tex. Oil Co., Sur. 768. Loc.
French Oil Co. No. 2 Garcia, S½, Sur. 1,121. Loc.
O. W. Killam No. 1 fee, Sur. 1,690. Drlg. 4,483 ft.
Lu-Tex Oil Co. No. 1-A Lone Star Constr. Co., Blk. 26, Porc. 12, 13 and 14. Drlg. 1,521 ft.
Mills Bennett Prod. Co. No. 1 J. K. Kirkpatrick Sur. 14. D.&A. 2,700 ft.
Mills Bennett Prod. Co. No. 1 Martinez, Blk. 84, Sh. 1, E. P. Grullo Gr. R.U.
Joe Palmer No. 1 Laredo Natl. Bank, 1,980 ft. S and W lines, Sur. 463. Loc.
Porter & Blanchard No. 1 Perez et. al., 330 ft. S and E lines, sec. 1,010. D.&A. 2,260 ft.
Wilcox O. & G. Co. No. 1 Dunbar, Sur. 2,292, J. Galen Gr. Drlg. 3,616 ft.

### Willacy County

Ruez-Morton, Inc., No. 1 F. Armendias, C Lot 9, Sh. 4, San Juan de Carricitos Gr. Drlg. 87 ft.
Ruez-Morton, Inc., No. 1 Johnson-Stillman, Lot 14, Blk. 25, Sh. 44, San Juan de Carricitos Gr. Drlg. sh. 526 ft.
Shell Pet. Corp. No. 1 Yturria, Sh. 64, San Juan de Carricitos Grant (workover). T.D. 7,662 ft.; to drill deeper; R.U.

### Zapata County

Fidelity Oil & Roy. Co. No. 1 Gopher Unit, Blk. 9, Sur. 6, Loc.
H. Guinn Lewis No. 1 S. Benavides, Blk. 39, Villa Gr. Set sur. csg.; W.O.C.
Ivan Howard and R. F. Duggan No. 1 Cuellar Bros., Sur. 248. R.U.
Jennings No. 1 Martinez, Sur. 434. T.D. 150 ft.; S.D.
R. Wheeless No. 1 Welch, Blk. 1. E. K. Bateman Subd. Spudded.

### Zavalla County

Wilcox O. & G. Co. No. 1 Gillman, sec. 11. Drlg. 1,947 ft.

## S. W. TEXAS PROVEN

### McCampbell—Aransas-San Patricio Counties

Atlantic Ref. Co. No. 2 Maryland Trust Co., 330 ft. N and E lines, Blk. 23, Loc.
Atlantic Ref. Co. No. 3-B McCampbell, Lot 5, Blk. 40. Drlg. 5,662 ft.
Atlantic Ref. Co. No. 3-C McCampbell, Lot 40. T.D. 6,551½ ft.; perforated 6,540-44 ft.
Atlantic Ref. Co. No. 4-C McCampbell, Lots 11 and 12, Blk. 40. Loc.
Buckingham Oil Co. No. 4-A McCampbell, Blk. 41, Orick Sur. Loc.
Buckingham Oil Co. and Jones No. 1-B McCampbell, Lots 13 and 14, sec. 40. Set csg. 6,557 ft.; W.O.C.; T. sd. 6,522 ft.; comp.; 109 B.P.D. on ½-in. ck.; perf. 6,548-51 ft.
Collins & Broughton No. 1 McCampbell, Lot 5, Blk. 37, McCampbell Subd. Drlg. 3,016 ft.
J. Nelson No. 1 Riggs, 330 ft. NW line, 213 ft. SW line, 6.46-ac. tr., Trs. 12 and 13, Blk. 16. Loc

### Hilbig—Bastrop County

Joe E. Mills No. 1 Askew, 600 ft. NW line, 1,525 ft. SW line, 278.5-ac. tr., Wolfenberger Sur. T.D. 2,907 ft.; S.D.

### Cosden—Bee County

Elwood & Young No. 3 Barnett, John Place Sur. Sd. 3,636-53 ft.; S.O.; P.B. 3,910 ft.; T.D. 4,050 ft.; S.D.; W.O.O.

### Plummer—Bee County

W. C. McBride No. 1 Plummer, 34-ac. tr., sec. 33, Plummer-Chessman Sur Loc.
H. J. Weinert No. 1 Smith, Plummer-Chessman Sur. Spudded.

### Alta Mesa—Brooks County

Standard of Texas No. 1 Garcia, 1,398 ft. N and W lines, Tr. 1, Sh. 1-A, La Mestina de Gonzales Sur. Loc.
Standard of Texas No. 2 Garcia, 615 ft. S line, 465 ft. W line, Tr. 1, Sh. 1-A, La Mestina de Gonzales Sur. Loc.

Standard of Texas No. 2 Mestina, La Mestina de Gonzales Gr. Sd. 2,446-48 ft.; comp.; 362 B.P.D. on ¾-in. ck.

Standard of Texas No. 3 Mestina, La Mestina de Gonzales Gr. Sd. 2,448½-50 ft.; comp.; 226 B.P.D.

### Alta Verde—Brooks County

L. & W. Oil Co. No. 1 Wm.Singer, Blk. 8 Sur. 436. Sd. 515-20 ft.; set .¼-in. csg. 934 ft.; T.D. 948 ft.; tested sulfur wtr. with S.O.; prep. to drill deeper.

### Branyon—Caldwell County

Adams & Lyles No. 3 Ellison, D. Cooper Sur. Cg. 2,047 ft.

Blundell et al No. 1 Luce, J. Neil Sur. Completing.

R. B. Byrd No. 1 McGee, J. A. Neal Sur. Drlg. 212 ft.

Colby O. Co. No. 2 McCrory, 20-ac. tr., J. Neil Sur. Chalk 2,002-68 ft.; comp.; est. 100 B.P.H.

Lincoln Pet. Co. No. 4 Branyon, Cooper Sur. Loc.

Taylor Pet. Co. No. 1 Caldwell County, 4 ac. tr., D. Cooper Sur. Drlg. 566 ft.

Whisenant & Trenchard No. 1 Young, J. R. Miller Sur. T.D. 2,225 ft.; R.U. to pmp.

### Buchanan—Caldwell County

Whittington et al No. 1 MacMahon, Pinchback Sur. Serp. 2,035-60 ft.; comp.; no gauge.

### Slick—DeWitt County

Geo. B. White No. 4 Poetter, O. Marshall Sur. Spdg.

### Charamousca—Duval County

N. V. Duncan No. 3 Worden-Drought, Sur. 151. Sd. 1,560-68 ft.; comp.; 5 B.P.H. on ¼-in. ck.; sd. 1,531-37 ft.

N. V. Duncan No. 4 Worden & Draught, Sur. 151. Comp.; 117 B.P.D. on ⅜-in. ck.

Magnolia Pet. Co. No. 1 D.C.R.C., Sur. 152. Drlg. 1,876 ft.

### Colmena—Duval County

Conservative Oil Co. No. 2 D.C.R.C.-Sents 133 ft. N Eline, 1,200 ft. SE line, Blk. 13 sec. 51. S.D. 1,544 ft.

Wellington Oil Co. No. 3 D.C.R.C., Blk. 10, sec. 51. Cg. 1,511 ft.

### Driscoll—Duval County

Continental Oil Co. No. 13-A Sevier, Sur. 448. Drlg. 362 ft.

### El Mesquite—Duval County

Rogers & Rogers No. 3 Pena, El Mesquite Gr. R.U.

### Government Wells—Duval County

Magnolia Pet. Co. No. 6 Harvill, NE¼ SW¼, Sur. 64. Loc.

Magnolia Pet. Co. No. 11 Lundell, Sur. 60. T.D. 2,283 ft.; D.&A.

San Diego Oil Corp. No. 1 Millard, Sur. 64. Testing 2,514 ft.

Reed & McKay No. 14 Lundell, Sur. 60. Sd. 2,265-76 ft.; comp.; 102 B.P.D.

Southwest Drlg. Co. No. 2 Hahl, Sur. 64 Sd. 2,544-49 ft.; comp.; 73 B.P.D.; T.D. 2,549 ft.

### Hoffman—Duval County

Bridwell Oil Co. No. 1-A Green, Sur. 118. Comp.; 7 B.P.H.; T.D. 2,706 ft.

Bridwell Oil Co. No. 7-B Hoffman, Sur. 122. R.U.

Bridwell Oil Co. No. 5 Robles, sec. 68 Tstg. sd. 2,696-99 ft.; recemented perf.; comp.; 123 B.P.D. on ¼-in. ck.; sd. 2,-688-2,703 ft.

Duval Oil Corp. No. 9 Hoffman, Sur. 118. Testing 2,857 ft.

Duval Oil Corp. No. 10 Hoffman, Sur. 118. Cg. 2,716 ft.

Plymouth Oil Co. No. 5 Hoffman, 1,650 ft. N line, 2,310 ft. E line, Sur. 117. Drlg. 2,783 ft.

Standard of Kansas No. 3 Green, Sur. 118. Sd. 2,716-18 ft.; testing.

Standard of Kansas No. 4 Green, Sur. 118. Loc.

### Kohler—Duval County

Chiquita Oil Co. No. 1 Peters, 162-ac. tr., Sur. 162. Drlg. wtr. well.

Humble O. & R. Co. No. 55-A Kohler, Sur. 164. Spdg.

Humble O. & R. Co. No. 3 Peters, sec. 398. Flwg. 10 bbls. fluid for 17 hrs., 36% wtr.; T.D. 2,658 ft.; P.B. 2,655 ft.; rng. tbg. 2,655 ft.

Sun Oil Co. No. 1 Peters, 330 ft. S and W lines, Sur. 161. Set csg. 2,446 ft.; comp.; gasser; spraying oil.

Windsor Oil Co. No. 5-B Peters, Sur. 34. Loc.

### Loma Novia—Duval County

Duval Oil Corp. No. 30 Bishop, sec. 57. Drlg. plugs 2,574 ft.

Duval Oil Corp. No. 31 Bishop, sec. 57. Loc.

Eastern Texas Prod. Co. No. 5 Hubbard Sur. 71. R.U.

Humble O. & R. Co. No. 23 Ruiz, Sur. 553. T.D. 2,780 ft.; swbg.

Humble O. & R. Co. No. 24 Ruiz, Sur. 553 Drk.

Humble O. & R. Co. No. 25 Ruiz, Sur. 553. Drlg. sh. 2,796 ft.

Magnolia Pet. Co. No. 12 Herbst, Sur. 70. Drlg. 1,637 ft.

Rosan Oil Co. No. 4-A Hubbard, Sur. 71 M.I.M.

Russ Pet. Co. No. 8-D Ruiz, SW¼ SE¼, sec. 64. Sd. 2,513-19 ft.; comp.; 20 B.P.D. on pmp.

Texas Co. No. 21 Bishop, sec. 59. Set 7-in. csg. at 2,573 ft.; W.O.C.

### Lopez—Webb—Duval Counties

Gem Oil Co. No. 2 Peal, Sur. 72. Sd. 2,100-12 ft.; comp.; 15,000,000 ft. gas.

Humble O. & R. Co. No. 10-C D.C.R.C., Sur. 901. T.D. 2,114 ft.; comp.; 5½ B.P.H.

Humble O. & R. Co. No. 11-C D.C.R.C., Sur. 901. Set csg. on sd. 2,106 ft.

Hunter Co. No. 2-B Billings, Sur. 113. R.U.

Mills Bennett Prod. Co. No. 17 Billings, Sur. 113. R.U.

Mortimer & Springer No. 22-B Peal, Sur. 796. T.D. 2,183 ft.; comp.; 18 B.P.H.

Mortimer & Springer No. 23-B Peal, Sur. 796. T.D. 2,168 ft.; comp.; 18 B.P.H.

Mortimer & Springer No. 24-B Peal, Sur. 796. M.I.M.

Mortimer & Springer No. 25-B Peal, Sur. 796. R.U.

Sierra Oil & Roy. Co. No. 3 Billings, Sur. 113. T.D. 2,236 ft.; reworking.

### Lowe Ranch—Duval County

Atlantic Ref. Co. No. 1 Lowe, 330 ft. E line, 1,678 ft. SW of NE cor., Sur. 466. Loc.

### Palangana—Duval County

Pener Palangana Oil Co. No. 3 C. K. Gravis, Sur. 250. Loc.

### Peters—Duval County

Rio Bravo Oil Co. & Coates No. 2-C Peters, Sur. 398. Drlg. 2,607 ft.

Windsor Oil Co. No. 1 Peters, Sur. 34 (W.O.). Sd. 2,628-44 ft.; comp.; 10 B.P.D.

### Piedra Lumbre—Duval County

Magnolia Pet. Co. No. 11 D.C.R.C., Sur. 100. T.D. 1,971 ft.; comp.; 50 B.P.D.

Magnolia Pet. Co. No. 12 D.C.R.C., 1,650 ft. S and E lines, sec. 100. Set csg. 1,971 ft.; W.O.C.

### Sarnosa—Duval County

Humble O. & R. Co. No. 3 Arnstine, Sur. 130. Sd. 2,398-2,426 ft.; comp.; 96 B.P.D.

Humble O. & R. Co. No. 4 Arnstine, Sur. 130. Drlg. s. sd. 2,426 ft.

### Seven Sisters—Duval County

Dulce Oil Co. No. 5 Serna, Sur. 384. Cg. oil sd. 2,425 ft.

Humble O. & R. Co. No. 44 Smith, Sur. 382. T.D. 2,435 ft.; D.&A.

Humble O. & R. Co. No. 5 Dowdy, sec. 272. Set 5½-in. csg. on sd. 2,550 ft.

Humble O. & R. Co. No. 45 Smith, Sur. 382. Drlg. sh. 2,465 ft.

Reliance Oil & Roy. Co. No. 1-A Lichtenberger, sec. 225. T.D. 2,720 ft.; reworking for completion.

Reliance Oil & Roy. Co. No. 2 Lichtenberger, S½, sec. 225. Loc.

Texas Co. No. 10 Badgley, Sur. 307. T.D. 2,504 ft.; comp.; 468 B.P.D. on ½-in. ck.

Westheimer & Daube No. 29 Campos, Sur. 224. T.D. 2,710 ft.; comp.; 5,000,000 ft. gas and 30 B.P.D. oil.

Westheimer & Daube No. 30 Campos, Sur. 224. Cg. 2,708 ft.

### Sweeden—Duval County

Hiawatha O. & G. Co. No. 1 Herberger, 330 ft. S and W lines, sec. 10, Agua Poquita Gr. Drlg. 4,077 ft.

Hiawatha O. & G. Co. No. 1 Miller, 330 ft. N and E lines, sec. 24, Agua Poquita Gr. Drlg. 5,362 ft.

### North Pettus—Goliad-Karnes Counties

Diamond Halff Oil Co. No. 1-C Gillette, 745-ac. tr., J. Gomez Sur. Sd. 3,668-3,-876 ft.; completing.

Jane Oil Co. No. 6 Smith, B.&B. Sur. No. 25. T.D 3,727 ft.; set 5½-in. csg. 3,712 ft.; W.O.C.

Magnolia Pet. Co. No. 13 Porter, 330 ft. SE line lse., 660 ft. NE of No. 6, B.&B. Sur. 23. Drlg. 563 ft.

### Clark—Guadalupe County

Diamond Halff Oil Co. No. 2 Larison, G. DeWitt Sur. Spudded.

D. Mulholland No. 1 Johns, J. K. Davis Sur. Spudded.

### Darst Creek—Guadalupe County

Freeman Oil Co. No. 3 Larrison, G. DeWitt Sur. 13. Loc.

Riddle Oil Co. No. 1 Williams, G. DeWitt Sur. R.U.

Saxet Prod. Co. No. 1 Inman, G. DeWitt Sur. T.D. 2,505 ft.; comp.; on pmp.; no gauge.

V. G. Schimmel No. 2 Grimm, Dewitt Sur. T.D. 2,525 ft.; W.O. pump.

### Nolte—Guadalupe County

Riddle Oil Co. No. 1 Herff, Gortari Sur. No. 76. Set csg. 20 ft.; W.O.C.

Riddle Oil Co. No. 2 Nolte, Lowell Sur. 16. R.U.

Wheelock & Collins No. 1 Warnecke, 335-ac. tr. R.U.

### Sal Mar—Guadalupe County

Perot Oil Corp. No. 1 Priestly, Williams Sur. 46. Sat. chalk 2,006½-9 ft.; drlg. plugs.

### LaBlanca—Hidalgo County

Gulf States Oil Co. No. 3 Engleman, Lot 3, Blk. 70, Las Mestanas Gr. (workover). T.D. 8,096 ft.; W.O.O.

Sterling O. & R. Co. No. 1 Engleman, 660 ft. N and E lines, Lot 8, Blk. 95. Set Sur. csg. 1,250 ft.; drlg. 6,407 ft.

### Mercedes—Hidalgo County

Union Sulphur Co. No. 7 American Rio Grande, Tr. 2,309, Blk. 59, (workover), perf. csg. 7,481-91 ft.; P.B. 7,592 to 7,-513 ft.

### Samfordyce—Hidalgo-Starr Counties

Cosmo Petroleum Co. No. 1 Guerra, Sh 254, Porc. 40. R.U.

Ralph Fair No. 1 Flores, 30-ac. tr., Sh. 250, Porc. 38. Sd. 2,943-45 ft.; comp.; 50 B.P.H. on ½-in. ck.

E. A. Graham No. 1 Yturria Ld. & Livestock Co., Tr. 9, Porc. 100. Cg. 2,872 ft.

Harrison & Danvers, Inc., No. 1 Pena, 16.5-ac. tr., Tr. 250, Porc. 38. M.I.M.

Henshaw Bros. No. 1 Elizando, Porc. 39. Sd. 3,678-82 ft.; S.G.; drlg. 4,147 ft.

Val-Tex Oil Co. No. 2 Chapa, Tr. 250, Porc. 39. Spudded.

Young & Bonnear No. 1 Diaz, Tr. 331, Porc. 40. R.U.

### Alworth—Jim Hogg County

French Oil Co. No. 2 Garza, Blk. 1, Sur. 269. Sd. 1,033-35 ft.; set csg.; W.O.C.

French Oil Co. No. 4 Garza, Blk. 1, Sur. 269. T.D. 2,630 ft.; D.&A.

### Randado—Jim Hogg County

J. W. Adams No. 1 Allen, B.G.&F. Sur. 48. Spudded.

### Bentonville—Jim Wells County

Tom Graham No. 2 Luby, Share 4, Los Presnos de Abajo Gr. Drlg. 5,672 ft.

Stanolind O. & G. Co. No. 1 Bird, de la Garcia Gr. Drlg. 5,797 ft.

Stanolind O. & G. Co. No. 2 Pope, sec. 13, King Farm Lots. Sd. 5,688-93 ft.; tstg.

### Premont—Jim Wells County

Tom Graham No. 3-A Bennett, C Lots 72 and 73, sec. 76. Set csg. on sd. 2,266 ft.; W.O.C.

Tom Graham No. 2 Johnson, Lot 76, Sur. 215. Sd. 2,349-54 ft.; set csg. 2,354 ft.

Tom Graham No. 1 Laughlin, sec. 76. Sd. 2,257-69 ft.; set csg.; W.O.C.

Tom Graham No. 1 L. E. Seeligson, cen. Lots 81 and 96, sec. 77. Drlg. 2,107 ft.

Tom Graham No. 1-A Singer, Lots 71 and 74, sec. 76. Cg. sd. 2,264 ft.

W. F. Morgan No. 2 Laughlin, Tr. 7 and 10, sec. 76, Sur. 231. R.U.

Richardson, Ware & Richardson No. 1 Miller, cen. Lots 40 and 41, Holdeman Subd., sec. 71. Drk.

Securities Royalty Co. No. 1 Miller, Lots 40 and 41, sec. 231. Drlg. 1,017 ft.

S. J. Sloan No. 1 Nash, Lot 102, Holdeman Subd., sec. 75. Set csg. 2,350 ft.; W.O.C.

### Sandia—Jim Wells County

J. E. Walsh No. 2 Wade, Lot 2, Blk. C. Bode Subd. Stdg. 2,875 ft.; prep. resume drlg.

### Kingsville—Kleberg County

Great States Oil Co. No. 1 Kivlin, Blk. 4, sec. 39. S.D. 2,485 ft.

### Oakville—Live Oak County

Simmons O. & G. Co. No. 2-B Reagan Hrs., 451-ac. tr. T.D. 2,809½ ft.; comptg.

### Calliham—McMullen County

R. P. Lightfoot No. 9 Lark, Blk. 118, Scrugham Sur. Loc.

### Ina—Medina County

Ina O. & R. Co. No. 3 Viola Wilson, Durst Sur. S.D. 742 ft.

### Agua Dulce—Nueces County

Lockhart Bros. No. 1 Elliff, 4,501 ft. E line, 466 ft. S line, 3,054.9-ac. tr., Antonio Longorio Gr. Sd. and sh. 6,863-67 ft.; T.D. sh. 6,912 ft.; perf. csg. 6,410-20 ft.; cleaning gas and dist. in pits; flwg. 20 B.P.D.

Stoddart & Moss No. 1 Colman, 330 ft. NW and NE lines, SE¼ SW 330-ac. tr., sec. 206. S.D. 6,885 ft.; blew out and closed in; to attempt comp. through drill stem.

Texon Drlg. Co. No. 2 Elliff, 5,580 ft. S line, 466 ft. E line, 3,054.9-ac. tr., Antonio Longorio Gr. Abd. loc.

Texon Drlg. Co. No. 2-B Sevier, 880-ac. tr., W. W. Chapman Lds., Palto Alto Gr. Set 16-in. csg. 300 ft.; T.D. 5,867 ft.; cutting stuck D.S.

United Prod. Co. No. 1 Harvey, 1,100 ft. W line, 1,050 ft. N line, tr., M. Garza Sur. Cg. 6,172 ft.

### Clara Driscoll—Nueces County

Hiram Reed No. 2 Roper, C Lot 1, sec. 108. Perf. 3,901-05 ft.; gas and wtr.; to P.B. and perf. in 3,800-ft. sd. W.O.W.

Houston Oil Co. No. 1 Sevier, 330 ft. S and W lines, 77.1-ac. tr., Quadrilla Irr. Co., Sur. Loc.

Magnolia Pet. Co. No. 2 Sevier, 330 ft. S and W lines, 80-ac. tr., R. Russell Sur. Sd. 3,818-21 ft. show oil; set csg. 3,817 ft.; W.O.C.

Texas Co. No. 1 C. D. Sevier, Wm. Gambel Sur. Drlg. sd. 4,016 ft.

Wellington Oil Co. No. 14 Sevier, 254.7-ac. tr., Wm. Gambel Sur. Drlg. 4,027 ft.

### Flour Bluff—Nueces County

Humble O. & R. Co. et. al. No. 1 Gulden, Lot 30, Blk. 47. Drlg. sh. 4,025 ft.

Humble O. & R. Co. et al No. 2-A Miller, Blk. 25, sec. 47. T.D. sd. 6,670 ft.; completing.

Humble O. & R. Co. et al No. 3-B Miller, Lot 4, Blk. 48. Set sur. csg. 1,065 ft.; W.O.C.

Humble O. & R. Co. et al No. 6 Phillips, Lot 11, Blk. 55. T.D. sd. 6,656 ft.; completing.

Humble O. & R. Co. et al No. 1 Ritter, Lot 25, Blk. 55. Set csg. 232 ft.; W.O.C.

Humble O. & R. Co. et al. No. 1-A Solar Sevier, Blk. 13, sec. 47. Drlg. sh. 2,-931 ft.

Humble O. & R. Co. No. 2 Webster, Blk. 25, sec. 48. T.D. 6,658 ft.; comp.; 171 B.P.D. on ½-in. ck.

S. Paul No. 1 Moulter, Blk. 16, sec. 41, Encinal Garden tracts. Loc.

### London—Nueces County

Cosner & Cosner No. 1 Stockton, 330 ft. N and E lines, SW¼, NE¼, sec. 25. Spudded; set surf. csg.

Cosner & Cosner No. 2 Stockton, 330 ft. S and E lines, SW¼, NE¼, sec. 25. Loc.

### Saxet Heights—Nueces County

Baltic Drlg. Co. No. 1 Grant, Lot 11, Oak Park Addn. Sd. 4,066-90 ft.; comp.; 88 B.P.D.

W. C. Brady No. 1 Guy, C Lot 45, Country Club Addn. Drlg. 2,075 ft.

W. C. Brady, trustee No. 1 Hartley, 4-ac. tr., Ehlers Gardens tracts. Set surf. csg.; W.O.C.

W. C. Brady, trustee No. 1 London, cen. Lot 1, Ellendale Gardens, No. 3. Drk.

Callihan Bros. and Whitley No. 1 Hartley, Villareal Sur. R.U. and S.D.

Chas. F. McGrew No. 3 Kelly, 19-ac. tr. Sd. 4,060-90 ft.; comp.; 40 bbls. oil and 200 bbls. S.W. per day on ⅜-in. ck.

W. N. Paul No. 2 Schallert, C Blk. "C," Harbor View Addn. S.D. 1,800 ft.; W.O.

Pedernal Oil Co. No. 1 John, Blk. 14, Oak Park Addn. S.D. 4,110 ft.; orders.

Potter Pipe Line Co. No. 4 Cohen, 102 ft. S line, 450 ft. E line, 15-ac. tr., Villareal Sur. Drlg. 526 ft.

Ben F. Smith No. 1 Snowden, 13-ac. tr., Villareal Sur. Drk.

Taylor Pet. Co. No. 7 Country Club, 83-ac. tr., Villareal Sur. Drlg. 6,511 ft.

Taylor Pet. Co. No. 1 Kaler, 10-ac. Villareal Sur. Loc.

S. E. Willson, Jr., No. 1 Dunn, Blk. 2, Oak Park Addn. Sd. 4,073-78 ft.; comp.; 84 B.P.D. on ⅛-in. ck.

S. E. Wilson No. 1 fee, Blk. 2, Oak Park Addn. Sd. 4,070-79 ft.; set 5-in. csg. 4,070 ft.

### Saxet—Nueces County

C. Andrade & Renwar Oil Co. No. 7 Frank, Sur. 416. Drlg. 5,021 ft.

Baltic Drlg. Co. No. 2 Harmon, 50 ft. SW of No. 1, Comp.; 40 B.P.D. on ¼-in. ck.; perf. 5,760-65 ft.

Benson Drlg. Co. No. 1 Morgan, 330 ft. N and W lines, 40-ac. tr., Sur. 315 (W.O.). Old T.D. 4,483 ft.; R.U. to D.D.

Ben-Tex Oil Co. No. 2 Harmon, 990 ft. S line, 330 ft. E line, 50-ac. tr., Sur. 416. T.D. 6,760 ft.; sd. 6,741-52 ft.; perf. 6,-742-46 ft.; comp.; no gauge.

R. B. Bryant No. 1 Gallagher, Sur. 25. Cg. 4,737 ft.

Conservative Oil Co. No. 1-A R. Morgan, 80-ac. tr., Sur. 315. Set csg. on sd. 4,451-54 ft.; sdtrk. hole.

Conservative Oil Co. No. 4-B Morgan, 330 ft. N line, 1,984 ft. W line, lse., Sur. 403. T.D. 6,977 ft.; perf. 5,145-50 ft.; comp.; 70 B.P.D. dist. est. grav. 62.

A. D. Corgey No. 1 Page, 330 ft. S and E lines, 20-ac. tr., Sur. 716. M.I.M.

Crown Central Pet. Corp. No. 4-B Morgan, 80-ac. tr., Surs. 315 and 592. Sd. 4,444-45 ft.; set csg.; comp.; 151 B.P.D. on 3/16-in. ck.

Crown Central Pet. Corp. No. 6-A Morgan, Sur. 315. Sd. 4,445-50 ft.; set csg.; W.O.C.

Donico Prod. Co. No. 2 Dounigan, 330 ft. W line, 2,004 ft. S line, 80-ac. tr., sec. 7, Rg. 6, Kinney Lds. Loc.

L. Glasscock No. 2 Johns, 20-ac. tr., MacGregor Sur. 582. M.I.M.

L. Glasscock No. 3 Hunter, 990 ft. N line, 330 ft. W line, 160-ac. tr., Dunn Sur. 312. Blew out; shut in; drlg. 5,026 ft.

Great States Oil Co. and Violet Oil Corp. No. 7 McGregor-Belk, Sur. 311. D.S.T. 6,318-26 ft.; recd. 1,000 ft. oil, 90 ft. S.W.; sd. 6,208-26 ft.; set csg. 6,326 ft.; cleaning into pits.

W. H. Harrison Drlg. Co. No. 1 Taggert, 50-ac. tr., Sur. 401. M.I.M.

Hiawatha O. & G. Co. No. 1 Hutchins-Stillwell, Lot 34, Sheppard Lds. Perf. 5,853-63 ft.; recementing.

Hiawatha Oil Co. No. 9 Hutchins-Stillwell, Lot 34, Sheppard Lds. Sd. 5,833-47 ft. S. O.; recementing perf. at 5,833½-45½ ft.

Houston Oil Co. No. 12 McGregor, 135-ac. tr., Sur. 582. T.D. 5,528 ft.; D.S. tstg.

Houston Oil Co. No. 14 Morgan, 2,310 ft. S line, 330 ft. W line, 493-ac. tr. T.D. 4,865 ft.; perf. 4,415-26 ft.; comp.; 152 B.P.D. on 7/32-in. ck.

Houston Oil Co. No. 18 Morgan, sec. 7, Rge. 5. Comp.; T.D. 4,424 ft.

Houston Oil Co. No. 19 Morgan, 493.63-ac. tr., sec. 7, Rge. 5. R.U.

Houston Oil Co. No. 20 Morgan, 493.63-ac. tr., sec. 7, Rge. 5. R.U.

H. H. Howell No. 2 Hutchins, 80-ac. tr., Sur. 416. Sd. 6,711-28 ft.; set csg. 6,720 ft.; perf. 6,680-87 ft.; washing in.

H. H. Howell No. 1 R. Morgan, Blk. 3, Roberts Subd., Sur. 415. Cg. 6,783 ft.

Maryland Corp. No. 6 Morgan, Sur. 592. Perf. csg. 4,422-26 ft.; swbg.

Maryland Corp. No. 1 Stillwell-Sagarin, 4.4-ac. tr., Sur. 500. T.D. 6,338 (cor.); S.D.; prep. perf. 6,304-07 ft.

Mills Bennett Prod. Co. No. 2 Ardner, 210-ac. tr., Sur. 410 (W.O.). T.D. 4,227 ft.; set csg. 4,133 ft.; W.O.C.

Morgan & Chapman Minerals No. 6 Morgan Clark, NE¼, Sur. 405. Cg. 6,656 ft.

North Star Oil Co. No. 7 R. Morgan, W½ SE¼, Sur. 405 (workover). O.T.D. 5,835 ft.; to D.D. to 8,000 ft.; cg. 6,727 ft.

Oso Drillers, Inc., No. 4 Roark, 660 ft. E line, 1,200 ft. S line, 106-ac. tr., Villareal Gr. T.D. 7,218 ft.; perf. 4,383-93 ft.; comp.; gasser; no gauge.

Pan American Prod. Co. No. 8-A Morgan, 89-ac. tr., Sur. 403. Cg. 5,802 ft.

Pan American Prod. Co. No. 5-A Sagarin, 89-ac. tr., Sur. 403. Drlg. 4,223 ft.

Pan American Prod. Co. No. 4 Solar Sevier, 40-ac. tr., Sur. 582. Drlg. 5,926 ft.

Phillips Pet. Co. No. 5 Hutchins, 80-ac. tr., Blks. 29 and 30, Sheppard Farm Lots (W.O.). Oil sd. 6,891-6,901 ft.; cg ahead 6,923 ft.

Port Oil & Gas Co. No. 1 Cox & Cryder, 72-ac. tr., Gallagher Sur. 166. Drlg. 1,-607 ft.

Republic Nat. Gas Co. No. 4-A Donigan, 240-ac. tr., sec. 6 and 7, Rge. 6. Drlg. 4,506 ft.

Republic Nat. Gas Co. No. 17 Dunn, Blk. 37, Sheppard Farm Lots. Set csg. 4,850 ft.; sd. 4,856-62 ft.; comp. 171 B.P.D. on 5/32-in. ck.

Republic Nat. Gas Co. No. 18 Dunn, 57.7-ac. tr., Blk. 38, Sheppard Farm Lots. Spudded.

Republic Nat. Gas Co. No. 2 Hutchins, 60-ac. tr., sec. 9, Rge. 5. Tstd. S.W. 4,833-70 ft.; set csg.; W.O.C.

Republic Nat. Gas Co. No. 3-A Morgan, sec. 406. Drlg. 1,780 ft.

Richardson Pet. Co. No. 3 Cain & Secrist, 440-ac. tr., Russell Farm Lot 23. Drlg. 1,521 ft.

Richardson Pet. Co. No. 20 Cain & Secrist, Blk. 23, Russell Farm Lots. Perf. csg. 4,417-21 ft.; comp.; no gauge.

Richardson Pet. Co. No. 5 Hoelscher, Blk. 22, Russell Farm Lots. Sd. 4,863-67 ft.; set csg.; perf. 4,868-70 ft.; comp.; no gauge.

Richardson Pet. Co. No. 5 Perkins-LaGasse, Blk. 26, Sheppard Farm Lots. Sd. 6,725-34 ft.; set csg. 6,764 ft.; W.O.C.

Richardson Pet. Co. No. 4 Quiros, Blk. 40, Sheppard Lots. Sd. 5,822-32 ft.; comp.; no gauge.

Richardson Pet. Co. No. 7 Quiros, Blk. 40, Sheppard Farm Lots. Set sur. csg. 1,210 ft.; W.O.C.

Richardson Pet. Co. No. 4 Sedwick, 185.4 ac. tr., Sur. 586. Set csg. 4,860 ft.; W.O.C

Southern Minerals Corp. No. 20 Bliss, 120-ac. tr., Sur. 416. Drlg.

Southern Minerals Corp. No. 5 Mastin, Sur. 416. Cg. 6,719 ft.

Southern Minerals Corp. No. 12 Smith, Sheppard Farm, Blk. 9. Sd. 4,545-50 ft.; comp.; no gauge.

Southern Minerals Corp. No. 13 Smith, Blk 4, Sheppard trs. Set sur. csg.; W.O.C.

Southern Minerals Corp. No. 2 Till, 52-ac. tr., Page Lds. Sur. Drlg. 4,766 ft.

Texon Drlg. Co. No. 5 Vance, Thos. Gallaugher Sur. Cg. 4,117 ft.

### Stratton—Nueces County

Camp Prod. Co. No. 1 Wordner, 330 ft. E line, 1,280 ft. N line, sec. 12, Stratton Subd. Drlg. 2,606 ft.

### Plymouth—San Patricio County

Magnolia Pet. Co. No. 11 Corpus Christi Bank, sec. 24, Fourth Addn., Taft Lds. Drk.

Plymouth Oil Co. No. 65-C Welder, sec. 71. Drlg. 6,857 ft.

Plymouth Oil Co. No. 68-C Welder, sec. 71. Oil sd. 5,628-44 ft.; set csg.; W.O.C.

Plymouth Oil Co. No. 69-C Welder, sec. 71. Set csg. 5,645 ft.; W.O.C.

Plymouth Oil Co. No. 70-C Welder, sec. 71. Drlg. 3,677 ft.

Stanolind O. & G. Co. No. 2 C. C. Banks, sec. 24, Fourth Addn. Loc.

Sun Oil Co. No. 5 Rossen, Lots 2 and 7, sec. 23, Fourth Addn. Drlg. 4,736 ft.

### Taft Field—San Patricio County

Atlantic Ref. Co. No. 3 Pullin, 330 ft. N line, 330 ft. W line, 40-ac. tr., Lot 4 sec. 1, Second Addn. R.U.

Cage Prod. Co. No. 6 Mayo, Ottman Sur. No report.

Cage Prod. Co. No. 7 Mayo, 9,560 ft. W line, 990 ft. S line, 60-ac. tr., Ottman Sur. Loc.

Conroe Drlg. Co. No. 8 Pullin, 40-ac. tr., Wm. Burus Sur. Sd. 4,355-66 ft.; rng. csg.

Esues Oil Co. No. 4 Britton, Lot 8, sec. 6, Third Addn. Set csg. 4,008 ft.; completing.

Humble O. & R. Co. No. 3 Flynn, sec. 1, Second Addn. Set csg. 4,989 ft.; W.O.C.

Humble O. & R. Co. No. 17 Mayo, Ottman Sur. M.I.R.

Humble O. & R. Co. No. 18 Mayo, Ottman Sur. T.D. 4,926 ft.; comp.; 48 B.P.D. on 3/32-in. ck.

### White Point—San Patrico County

Crown Central Pet. Corp. No. 1 White Point Dev. Co., 100-ac. tr. D.S.T. 4,888-4,905 ft.; rec. 2,100 ft. oil; 10 ft. sd. and S.W.; 30 lbs. W.P. 15-min.; sd. 4,-900-05 ft.; set csg. 4,888 ft.; flowing 10 B.P.H. fluid 85 per cent S.W.

### Alta Vista—Starr County

Moss & Heard No. 3 Ricaby, Porc. 83, J. of Camargo. Cg. 1,183 ft.

### Barbacoas—Starr County

K. E. Merren et al No. 1 S.C.C.C., Blk. 34. Porc. 89. Drlg. 582 ft.

### Los Olmos—Starr County

H. C. Owens No. 1 Ivey, Porc. 87. R.U.

St. Marys O. & G. Co. No. 1 Seabury, Porc. 87. Drlg. 432 ft.

Ted Stone No. 1 Kelsey-Bass, Porc. 87, of Camargo. S.D. 440 ft.

### Rio Grande City—Starr County

Clopton & Reed No. 1 Green, Porc. 80. Drlg. 2,693 ft.

Clopton & Reed No. 4 Tijerina, Lot 12, Sh. 14-C, Porc. 80. Drlg. 737 ft.

### Aviator—Webb County

Joe Palmer No. 1 Garcia, Sur. 463. R.U.

### Cole—Webb County

O. W. Killam No. 49 Bruni, Blk. 5, Sur. 3. T.D. 2,958 ft., tested oil.

### O'Hern—Webb County

Cole Pet. Co. No. 98 Benavides, Blk. 11, Sur. 412. Comp.; est. 60,000,000 ft. gas per day on ¼-in. ck. at 2,900 ft.

Hamil & Smith No. 4-A Benavides, Sur. 585. Drlg. 846 ft.

Hamil & Smith No. 4-A Benavides, Blk. 304, Hale Subd. Comp. 60 B.P.D.; T.D. 2,905 ft.

Hamil & Smith No. 21 Benavides, Hale Subd. Drlg. 2,257 ft.

Hamil & Smith No. 28 Benavides, Blk. 498, Hale Subd. R.U.

Hamil & Smith No. 29 Benavides, Blk. 497, Hale Subd. R.U.

Hamil & Smith No. 32 Benavides, Hale Subd. T.D. 2,930 ft.; comp.; 240 B.P.D.

Hamil & Smith No. 33 Benavides, Blk. 451. Comp.; 15 B.P.H.; T.D. 2,936 ft.

Magnolia Pet. Co. No. 21 S. Benavides, Blk. 13, Sur. 174. Tested 25,000 ft. gas 2,829-49 ft.; P.B. 2,679-86 ft.

H. J. Porter No. 1 Bruni, Blk. 585. Drlg. 2,127 ft.

H. M. Reed No. 4 Benavides, Blk. 299, Hale Subd. Swbg. 2,916 ft.

Starr Dev. Co. No. 1 Benavides, 330 ft. N and W lines, Sur. 173. M.I.M.

Sun Oil Co. No. 5-A Benavides, Blk. 508. Set csg. 2,531 ft.; W.O.C.

Sun Oil Co. No. 8-A Benavides, Blk. 507. Drlg. 2,716 ft.

Texas Co. No. 5-A Benavides, Blk. 375. Set surf. csg.; W.O.C.

### LaSal Vieja—Willacy County

Shell Pet. Corp. No. 1 Yturria, sh. 64, Carricitos Gr.; (W.O.). Drlg. 7,712 ft.

### Charco Redondo—Zapata County

W. C. Bob No. 2 Martinez, S½, Blk. 21, Quandudo Grant. Sd. 670-72 ft.; set csg.; W.O.C.

### Cuellar—Zapata County

Magnolia Pet. Co. No. 4 Cuellar, Sur. 245. Cg. 1,141 ft.

### Escobas—Zapata County

Harroun et al No. 5 Garza, Blk. 10. Comp.; 90 B.P.D.; T.D. 1,404 ft.

B. W. Roscoe No. 18 Bustamente, 197.3-ac. tr., Sh. 33. Comp.; 65 B.P.D.; T.D. 1,184 ft.

Texas Co. No. 96 Jennings, Cerrito Blanco Gr. Drlg. 1,487 ft.

Zapata Corp. No. 7 Garza, Blk. 21. Comp.; 30 B.P.D.; T.D. 1,156 ft.

### Haynes—Zapata County

D. Long No. 1 Phelps, Villa Gr. R.U.

Magnolia Pet. Co. No. 23 Haynes, Blk. 7, Haynes Subd. T.D. 1,176 ft.; comp.; 40 B.P.D.

Magnolia Pet. Co. No. 28 Haynes, Blk 7, Haynes Subd. Drlg. 257 ft.

Magnolia Pet. Co. No. 23 Haynes, Blk. 7, Haynes Subd. Drlg. 597 ft.

United Prod. Co. No. 27 Haynes, Blk. 13, Gunby Subd. D.&A. 1,228 ft.

### Lopena—Zapata County

Ahler Bros. No. 1 Yzaguirre, Sh. 17, Porc. 15. T.D. 420 ft. (cor.); D.&A.

Dalport Oil Corp. No. 1 Vela, Porc. 20. Loc.

Venture Pet. Co. No. 2 Ramerez, Blk. 3, Porc. 18. Loc.

Wm. H. Winn No. 1 Carlos Vela, Blk. 6, Porc. 20. Set csg. 2,370 ft.; W.O.C.

## E. C. TEXAS WILDCATS

### Anderson County

American Liberty Oil Co. No. 1 G. E. Gauge, Blackfoot area, B. Gilbert Sur. Drlg. 5,726 ft.

Tide Water Oil Co. et al No. 7 Monnig, S. Sanchez Sur., deep test, Long Lake field. Drlg. 7,075 ft.

### Angelina County

Ginter & Brown No. 2 Cope heirs, Jose Morin Sur., 3 mi. E of Dibol. R.U.

Hicks et al No. 1 Morris, J. Morris Sur., 3 mi. E of Dibol. S.D. 2,167 ft.

B. F. Hoffman No. 1 So. Pine Lbr. Co., B. J. Thompson Sur., C of SE¼ of Blk. 11, NE of Dibol. Drlg. 1,471 ft.

G. T. Van-Hull No. 1 W. D. Ivy, 10-ac. tr., W. D. Welch Sur., E of Dibol. S.D. 20 ft.

### Cherokee County

A. F. Richardson No. 1 F. P. O'Brien, G. S. Clapp Sur., 3 mi. NW of Rusk; 5,000-ft. test. Loc.

### Dallas County

Mauldin Oil Co. No. 1 W. E. Howell, S. Layton Sur., 8 mi. E of Grapevine, 6 mi. W of Longmire. S.D.

### Falls County

A. H. Bell et al No. 1 C. L. Trice, F. Mayham Sur., 1 mi. E of Lott. Top Austin 860 ft.; Buda 1,219 ft.; S.D. 1,220 ft.; bailed 15 bbls. oil.

Thirteen Oil Co. No. 1 H. R. Roberts, N. Slatter Sur., 6 mi. SE of Lott, Pecan Gap 1,480 ft.; S.D. 2,143 ft.

### Fannin County

Joiner & Owens No. 1 Goss-Morgan, J. Stephens Sur., 16 mi. N of Honey Grove. Fsg. 2,810 ft.

### Henderson County

Tide Water et al No. 1 McElreath & Suggett. Drlg. 1,325 ft.

### Hunt County

Penn Oil Corp. No. 1 R. B. Parish, C 100-ac. tr., N. Dauley Sur., 7 mi. NE of Lone Oak. Drk.

Superior Oil Co. No. 1 P. D. Paul, Mary Latham Sur., 4½ mi. NE of Quinlan. Cg. 6,131 ft.

Texola Land Corp. No 1. J. M. Goin, Jas. Merrick Sur., 2 mi. SW of Wolfe City. S.D. 40 ft.

### Kaufman County

Scott & Woodside No. 1 W. and T. Nash, in J. Cortez Sur., 1 mi. E of Scurry. M.I.R.

### Lamar County

Lowery-Cutler No. 1 E. C. Porter, Thos King Sur. Top Georgetown 354 ft.; S.D. 2,500 ft.

### Limestone County

A. W. Phillips et al No. 1 E. M. Speight, M. Herrin Sur., 6½ mi. SE of Mexia. S.D. 3,695 ft.

Pure Oil Co. No. 16-T Kendrick, P. Varella Sur., Mexia field. Loc.

### Red River County

Carpenter Oil Corp. No. 1 J. M. Roberts, J. Ware Sur., 10 mi. NE of Clarksville. Drlg. 1,200 ft.

Roy I. Carter Drlg. Co. No. 1 J. A. Tutt, C 40-ac. tr. in D. Hart Sur., 2 mi. S of Avery. S.D. 80 ft.

### Robertson County

J. E. Mills No. 1 T. Congelosi, G. A. Nixon Sur., 3½ mi. SW of Hearne. S.D. 2,250 ft.; lost hole; skidded rig 40 ft. S.

### Titus County

J. Z. Werby et al No. 1 Williams, 2 mi. E of Talco field, M.E.P.R.R. Sur. Drlg. 5,651 ft.

### Van Zandt County

Humble O. & R. Co. No. 1 L. K. Riggs, 420 ft. S and 200 ft. W of 45-ac. tr., W. Daniels Sur. Deep test. Drk.

Stroud & Lowe No. 1 P. L. McNeill, J. W. Guest Sur., 4 mi. N of Ben Wheeler. S.D. 20 ft.

## EAST TEXAS

(Border Counties)

### Bowie County

Ferguson & Hill No. 1 Breckenridge, N. Dysas Sur. Drlg. 2,160 ft.

Sutton-Hawkins No. 1 McDuffey, John Ball Sur. Drlg. 3,690 ft.

### Cass County

Frank DeMayo No. 1 W. D. Chew, Robt. Trammel Sur. Drlg. 5,590 ft.

Gulf Oil No. 4 Dawson, J. H. Rives Sur., NW cor. lse. Drlg. 3,495 ft.

Magnolia Pet. Co. No. 1 Allday Est., P. Evans Sur., SE cor. 87-ac. tr. Comp.; flw. 563 B.P.D.; T.D. 5,920 ft.

Magnolia No. 1 Hayer & Thatcher, Jacob Carsner Sur. Loc.

Magnolia Pet. Co. No. 7 L. Haywood, P. Evans Sur., SW of No. 3. 7-in. cmt. 5,932 ft.; T.D. 5,955 ft.

Magnolia Pet. Co. No. 8 L. Haywood, P. Evans Sur., NE of No. 2. Drlg. 5,770 ft.

Magnolia Pet. Co. No. 2 Lewis and Wicks No. 2, Cass Co. Sch. Ld. Sur., NW cor. tr. 7-in. cmt. 6,095 ft.; T.D. 6,132 ft.

Magnolia Pet. Co. No. 3 Lewis and Wicks, Cass Co. Sch. Ld. Sur., E of No. 2. Drlg. 5,925 ft.

Magnolia Pet. Co. No. 4 Lewis and Wicks, Cass Co. Sch. Ld. Sur. Drlg. 5,388 ft.

Magnolia Pet. Co. No. 5 Lewis and Wicks, Cass Co. Sch. Ld. Sur., E of No. 4. Drlg. 4,424 ft.

Magnolia Pet. Co. No. 6 Lewis and Wicks, Alex Archer Sur. Drlg. 5,672 ft.

Magnolia Pet. Co. No. 7 Lewis and Wicks, Alex Archer Sur. Drlg. 5,050 ft.

Magnolia Pet. Co. No. 1 J. B. McLeod, Cass Co. Sch. Ld. Sur., NW cor. sur. Loc.

Magnolia Pet. Co. No. 8 Meda Green, J. Davenport Sur. Drlg. 5,321 ft.

Magnolia Pet. Co. No. 13 Meda Green, J. Davenport Sur. Drlg. 4,665 ft.

Magnolia Pet. No. 3 W. M. Hall, Wilson Robinson Sur. Drk.

R. W. Norton No. 1 Davis, H. Holbert Sur. Drlg. 4,827 ft.

R. W. Norton No. 2 Davis, H. Holbert Sur., NE cor. Drlg. 4,011 ft.

R. W. Norton No. 3 Davis, H. Holbert Sur. Drlg. 4,000 ft.

Ohio Oil Co. No. 8 Willis, S.F.I.W. No. 1,263 Sur. Comp.; flw. 402 B.P.H.; T.D. 5,982 ft.

Ohio Oil Co. No. 13 R. P. Willis, S.F.I.W. Sur. No. 1,263, Loc.

Ohio Oil Co. No. 14 R. P. Willis, S.F.I.W. Sur. 1,263. Comp.; flw. 456 B.P.D.; T.D. 5,944 ft.

Ohio Oil Co. No. 16 R. P. Willis, S.F.I.W. Sur. No. 1,263. Drlg. 250 ft.

Ohio Oil Co. No. 17 R. P. Willis, S.F.I.W. Sur. No. 1,263. R.U.

Phillips Pet. Co. No. 5 Farrier, Wm. R Myers Sur. 7-in. cmt. 6,132 ft.; T.D. 6,150 ft.

Phillips Pet. Co. No. 6 Farrier, Wm. R Myers Sur. Comp.; flw. 247 bbls. 15 hrs., ¼-in. tb. ck.; T.D. 6,087 ft.

Phillips Pet. Co. No. 7 Farrier, Wm. R Myers Sur. Drlg. 5,495 ft.

Phillips Pet. Co. No. 8 Farrier, Wm. R. Myers Sur. Drlg. 3,335 ft.

Texas Co. No. 5 W. M. Hall, A. Archer Sur. Comp.; flw. 59 B.P.H.; T.D. 6,-060 ft.

Texas Co. No. 6 W. M. Hall, A. Archer Sur. 7-in. cmt. 6,019 ft.; T.D. 6,065 ft.; W.O.C.S.

Texas Co. No. 7 W. M. Hall, Alex Archer Sur., NE cor. lse. Drlg. 5,206 ft.

Texas Co. No. 8 W. M. Hall, Alex Archer Sur., NW cor. lse. Drlg. 5,310 ft.

Texas Co. No. 8 McLeod, W. A. Elliott Sur. Drk.

Texas Co. No. 2 N. A. Rambo, Cass Co. Sch. Ld. Sur. Loc.

Texas Co. No. 5 N. A. Rambo, Cass Co. Sch. Ld. Sur. Drlg. 2,224 ft.

Texas Co. No. 6 N. A. Rambo, Cass County Sch. Ld. Sur. T.D. 6,055 ft.; rg. csg.

United Prod. Co. No. 2 Bivens Unit, Jas Davenport Sur. T.D. 6,021 ft.; S.D. W.O.

United Prod. Co. No. 3 J. A. Bewley, H. Holbert Sur. Comp.; flw. 21 B.P.H.; T.D. 5,968 ft.

United Gas No. 3-A J. A. Blewey, H. Holbert Sur. Loc.

United Prod. No. 4 J. A. Bewley, H. Holbert Sur. 7-in. cmtd. 5,960 ft.; T.D. 6,-000 ft.

United Prod. No. 2-A J. H. Bewley, H. Holbert Sur. T.D. 5,995 ft.; tstg.

United Prod. No. 6 G. W. Bibby Unit, Alex Archer Sur. Drlg. 2,200 ft.

United Prod. Co. No. 1 Bostick, J. Coleman Sur. Drlg. 4,640 ft.

United Prod. No. 1 J. Q. Clements, Wm. B. Hughes Sur. Drlg. 5,040 ft.

United Prod. Co. No. 1 Davis Unit, Cass Co. Sch. Ld. Drlg. 5,100 ft.

United Gas No. 4 Bivens Unit, J. Davenport Sur. R.U.

United Prod. Co. No. 1 J. W. Land, B. Potter Sur., SW cor. 100-ac. lse. Drlg. 5,046 ft.

United Prod. No. 1 R. O. Long, W. Robinson Sur. R.U.

United Prod. Co. No. 1 J. D. Parker, J. Coleman Sur. Drlg. 3,700 ft.

United Prod. No. 1 Terry Unit, R. Potter Sur. Drlg. 2,116 ft.

United Prod. Co. No. 5-A Tyson, J. R. Rives Sur. Comp.; flw. 22 B.P.H.; T.D. 6,064 ft.

United Prod. No. 1 S. B. Willis, Wilson Robinson Sur. Comp.; flw. 45 B.P.H.; T.D. 6,018 ft.

United Prod. No. 3 S. B. Willis, Wilson Robinson Sur. No. 908. Comp.; flw. 25 B.P.H.; T.D. 6,040 ft.

United Prod. No. 4 S. B. Willis, W. Robinson Sur. Drlg. 2,250 ft.

United Prod. No. 5 S. B. Willis, W. Robinson Sur. Drlg. 2,170 ft.

Vaughn Prod. Co. No. 1 Willis, S.F.I.W. Sur. 1263. Loc.

Vaughn Prod. Co. No. 2 Willis, S.F.I.W. Sur. 1263. R.U.

### Harrison County

H. H. Alvord et al No. 1 M. A. Flannagan, L. Wormack Sur. R.U.

Geyer Oil Co. No. 1 Alex Moore, 5 mi. SW of Waskom, C. W. Fields Sur. W.O.S.R.

Geyer Oil Co. No. 2 Moore, C. W. Fields Sur. Loc.

Kennedy & Bachelor No. 1 Lane & Greer, J. L. Baker Sur. T.D. 2,336 ft.; prep. test.

H. H. Roberts et al No. 1 Z. Douglas, S. Fields Sur. T.D. 2,485 ft.; prep. for prod. test.

### Marion County

Arkansas-La. No. 1 W. S. Ford, Charles Grayson Sur., NE cor. Ford 204-ac. tr. Rg. 7-in.; T.D. 6,351 ft.; perf. and tstg.

Arkansas-La. No. 1 Laura McIntosh, Edmondson Sur. Drlg. 3,941 ft.

Bauman, Dunn & Fischer No. 1 Chatten, A. D. S. Coy Sur., SE cor. Drlg. 2,-476 ft.

Como Oil Co. No. 1 Lucas, A. Castleberry Sur., Caddo field. Drk.

Holcomb & Thomason No. 1 Lizzie Henderson, 330 ft. S and E, cor. Blk. 18, of Lizzie Henderson Subd., or 2,800 ft. S. 3,450 ft. E of NW cor. of R. Bennington Sur. Cmt. off gas; swabbing oil.

Sam Lanier No. 1 Lucey Rivea, SE cor. M. G. Wall Sur. T.D. 960 ft.; W.O.S.R.

Morefield & Prince No. 1 Benefield, NE cor. Robt. Potter Sur., 4 mi. W of Oil City, La. P.B. to 945 ft.; W.O.C.S.

Morefield & Thompson No. 1 B. Potter, Robt. Potter Sur., Caddo field. Drk.

### Panola County

Danciger O. & R. No. 1 Tatum, A. Bissell Sur. M.I.M.

R. H. Dearing & Sons No. 1 Wooten Est., W. Mann Sur. M.I.M.

Matex Oil Co. No. 1 Thomas M. Alstone, 3 mi. E of Elysian field. T.D. 5,036 ft.; prep D.D.

### Shelby County

Wm. Redditt No. 1 Pickering Lbr. Co., SE cor. Stephens English Sur. S.D. 2,166 ft.; fuel.

H. A. Stebbinger No. 1 Pickering Lbr. Co., on 160-ac. tr. in A. Hanson Sur. Drlg. 4,580 ft.

## NORTH TEXAS WILDCATS

### Archer County

Cargo Oil Co. No. 1 Slopansky, sec. 64, Harris Sur. Loc.

Golding & Cochran No. 1 Wilson, sec. 89, A.T.N.C.I. Sur. Drlg. 1,100 ft.

Hammond Oil Co. No. 1 Powell, H. A. Allen Sur. A-3. Drlg. 2,070 ft.

J. T. Miller No. 1 S. B. Herron, sec. 6, Clark & Plumb Sur. Drlg. 1,060 ft.

J. A. Self No. 1 Symank, sec. 11, L. & M. Pasture. 6⅝-in. 1,420 ft.; S.S.O. 1,421-25 ft.; testing.

J. G. Steele No. 1 Andrews, R. Rainey Sur. A-354. Drlg. 200 ft.

Wilson & Ligon No. 1 Pearston, sec. 129, Harris Sur. Spudded.

### Clay County

L. T. Burns No. 1 Sanzenbacker, L. N. Sparks Sur. A-401. Loc.

Green Mt. Oil Co. No. 1 Staggs, sec. 34, A.C.S.L. Sur. Spudding.

R. N. Hamilton No. 1 Fred Wines, sec. 4, H. Dixon Sur. A-106. S.D.O. 260 ft.

### Collin County

Sorrell et al No. 1 D. R. Clark, J. Rowland Sur. Spudded and S.D.

### Cooke County

Denver P. & R. Co. No. 1 Solomon, W. G. Hunt Sur. A-493. Loc.

Peterson et al No. 1 J. M. Floyd, Chas. DeMorse Sur. A-305. Drlg. 500 ft.

Ruble & Lowery No. 1 Dozier, Lot 12, F.C. S.L. Sur. Drlg. 2,378 ft.

United Producers Co. No. 1 J. G. Jones, L. S. Blair Sur. A-188. Drlg. 1,700 ft.

### Denton County

Bolivar Drlg. Co. No. 1 Bentley, J. Yoakum Sur. A-1,443. Drlg. 500 ft.

Carlysle & Wilson No. 1 J. P. Knox, R. Howard Sur. A-542. Gas sd. 1,950-55 ft.; C.O. and tstg.

H. Culver No. 1 Waide, J. Chisum Sur. A-278. Loc.

J. C. Foster No. 1 Jeffcoat, J. West Sur. Drlg. 2,350 ft.

Oil Finance No. 1 J. S. Gambill, S.D.O. 1,605 ft.

Ruwaldt & Martin No. 1 Joe S. Gambill, J. B. January Sur. A-658. S.D.O. 130 ft.

### Grayson County

**F. Gallbreath et al No. 1 Singletary, Chas Quillian Sur. A-989. P.B. 3,862-75 ft.; W.O.; spudded; to C.O.**

North Texas Oil Co. No. 1 A. M. Smith, R. M. Williamson Sur. A-1,300. Spudded.

**Red Wing Oil Co. No. 1 Mulder, J. Barefoot Sur. Drlg. 500 ft.**

Olson et al No. 1 D. R. Uitger, P. P. Cady Sur. A-301. Drlg. 4,400 ft.

Pete Shanor No. 1 Blair. Sd. 3,190-3,200 ft.; drlg. 3,500 ft.

### Hardeman County

**Locke & Durham No. 1 Schoppa, sec. 57, H.&T.C. Sur., Blk. 16. Drlg. 600 ft.**

### Jack County

Carpenter Oil Corp. No. 1 Johnson, R. Parker Sur. A-461. R.U.S.

**Danciger O. & R. Co. No. 1 Kinder, B.S.&F. Sur. A-83. Drlg. 2,160 ft.**

S. B. Edwards No. 1 Williams, J. M. Ross Sur. A-992. Drlg. 1,300 ft.

**Hamilton Pet. Co. No. 1 J. S. Rhodes, Wm Orr Sur. A-849. S.S.O. 2,362 ft.; C.O. and testing.**

L. Hedrick No. 1 Brown, S. M. Holderness Sur. A-1,532. Drlg. 2,500 ft.

**Mrs. D. P. Jack No. 1 Hardy, T.E.&L. Sur. No. 2,555. Drk.**

C. D. Neff, Tr., No. 1 Moore, S.P.R.R. Sur., sec. 7. Loc.

Sam Shabay No. 1 J. S. Callis, S.P.R.R. Sur. A-575. R.U.C.T.

**Tillman et al No. 1 Jones, J. Helmstutter Sur. No. A-1,269. Drk.**

### Montague County

Denver P. & R. Co. No. 1 Copeland, Blk. 162, Kembro Sur. Drlg. 2,108 ft.

**Edgar T. Hart No. 1 W. L. Davis, sec. 12, Jack Co. Sch. Ld. S.D. 1,100 ft.**

Montague Oil Co., Inc., No. 1 W. J. Bell, Sec. 2,882, T.E.&L. Sur. R.U. to drill old 3,500-ft. well to 6,000 ft.; C.O. old hole.

Ventex Investments, Ltd., No. 1 S. E. Bell, sec. 11, M.E.P.&P. Sur. Drlg. 1,601 ft.

### Throckmorton County

**R. J. Williams No. 1 W. B. Parrott, T.E.&L. Sur., sec. 961, S.D.O. 2,520 ft.**

### Wichita County

H. W. Barton, Jr. No. 1 W. B. Honaker, R. Meade Sur. A-185. S.D.O. 1,085 ft.

Christie et al No. 1 Vanmeter, Blk. 35, K.W.V.F.L. Sur. Spudded.

**Leo Oil Co. No. 1 Fonville, sec. 323, Waggoner Co. Sur. R.U.R.**

Petroleum Prod. Co. No. 73 First National Co., Blk. 29, K.W.V.F.L. Sur. Drlg. 2,860 ft.

**United Prod. Co. No. 1 J. T. Harrell, Blk. 9, Denton Co. Sch. Ld. Sur. Drlg. 1,150 ft.**

### Wilbarger County

**Bason Drlg. Co. No. 1 Waggoner, sec. 3, H.&T.C. Sur., Blk. 4. Drlg. 2,397 ft.**

Gibson & Jennings No. 1 Waggoner, sec. 109, H.&T.C. Sur., Blk. 14. Drlg. 530 ft.

**F. A. Lain No. 1 J. Coffee, sec. 44, H.&T.C. Sur. O.W.D.D.; cellar.**

**E. C. Lawson No. 1 Waggoner, sec. 103, H.&T.C. Sur. Drlg. 1,470 ft.**

Peery Oil Co. No. 1 King, sec. 44, H.&T.C. Sur., Blk. 13. Drlg. 2,100 ft.

L. Webb No. 1 Waggoner, sec. 49, H.&T.C. Sur., Blk. 2. Drlg. 2,400 ft.

### Wise County

**Latex Oil Co. No. 1 Smith, J. Couch Sur. Spudded.**

**Texas-Canadian Dev. Co. No. 1 T. N. Maxwell, Isham Epps Sur. A-267. Drlg. 3,890 ft.**

### Young County

S. Caprito No. 1 Laquay, A. Irvin Sur. A-1,779. Drlg. 4,100 ft.

**Collins & Fitzwater No. 1 J. G. Castleman, sec. 72, T.E.&L. Sur. Spudded.**

**Helmerich & Payne No. 1 J. H. Rubenkoenig, J. Poitevent Sur. 9-227. S.S.O. 4,205-30 ft.; testd. dry; P.B. to 3,661 ft.**

**J. E. Kadane No. 1 B. F. Manley, T.E.&L. Sur. 2,128. Drk.**

C. A. Lupton et al No. 1 Hall, B. R. Aiken Sur. A-2241. Loc.

**A. T. Strong No. 1 M. K. Graham, T.E.&L. Sur. 3,410. Drlg. 700 ft.**

**R. H. Vise No. 1 Dollins, T.E.&L. Sur. 615, Rng. 5 3/16-in. to 3,778 ft.**

**C. V. Welch No. 1 Street, M. E. Criswell Sur. A-1,772. Drlg. 1,400 ft.**

**Yorktex Pet. Co. No. 1 W. E. Steele, I.R.R. Sur. A-156. Drlg. 700 ft.**

## WEST TEXAS WILDCATS

### Andrews County

**Botkins & Barron No. 1 Kemp. Loc.**

**H. S. Forgeron et al No. 1 Lockhart & Brown, C NE¼ sec. 20, Blk. A-41, P.S.L. Sur. Loc.**

**G. F. Getty, Inc., No. 1 R. H. Lindley, sec. 5, Blk. A-46. T.D. 4,642 ft.; pumped 156 bbls. oil, 2 per cent water, decreasing in gauge in 4 days; fills at rate of 70 ft. per hr.; to deepen.**

**Geo. F. Getty No. 1 Moxley. T.D. 4,802 ft. C.O.**

**Hannigan No. 1 Lotus Oil Co., sec. 18, Blk. A-48, P.S.L. Sur. Drlg. 900 ft.**

**R. H. Henderson No. 1 J. E. Parker, sec. 25, P.S.L. Sur. A-43. T.D. 4,555 ft.; averaging 10 bbls. day on pump.**

Humble O. & R. Co. No. 1-B Means, 660 ft. from N and W, sec. 11, Blk. A-45. Loc.

**Humble O. & R. Co. No. 1-B J. S. Means, 660 ft. from N and W, sec. 11, Blk. A-45, P.S.L. Sur. Drlg. 1,506 ft.**

**Shell Pet. Corp. No. 1-E F. King, sec. 10, Blk. A-42, P.S.L. Sur. T.D. 4,471 ft.; to drill plug.**

### Bailey County

E. L. Wilson et al No. 1 Blank, 660 ft. from N and E, Labour 4, Abner Taylor League 700. Loc.

### Brewster County

**T. C. Dodson No. 1 Texas American Synd., sec. 66, Blk. 10, G.H.&S.A. Sur.; T.D. 3,915 ft.; fsg.**

### Cochran County

Bond & Harrison No. 1 Dean, 660 ft. from N and E, Labour 1, League 85, Greer Co. School Lands. Loc.

### Crane County

**Clark et al No. 1 Jordan, sec. 12, Blk. B-22, P.S.L. Sur. T.D. 3,750 ft.; C.O.**

**Gulf Oil Corp. No. 2 McKnight, sec. 9, Blk. B-21. Drlg. 4,335 ft.**

**J. Hertz No. 1-A Hughes, sec. 101. Drlg. 2,436 ft.**

**Sinclair Prairie Oil Co. No. 1 University, sec. 13, Blk. 35. Drlg. 790 ft.**

### Crockett County

**Superior Oil Co. af Calif. No. 1 J. S. Todd, C SE¼ sec. 55, Blk. UV, G.C.&S.F. Sur. Drk.**

### Ector County

Bond & Harrison No. 1 Rumsey, sec. 35, Blk. 45, Twp. 1n, T.&P. Sur. Drlg. 3,838 ft.

**Sinclair Prairie Oil Co. No. 2-A Johnson, sec. 48, Blk. 43, Twp. 1s, T.&P. Sur. T.D. 4,345 ft.; P.B. 4,173 ft.; reshot; C.O.**

### Edwards County

**Dan Auld et al No. 1 Rigsby, sec. 16, Blk. OK, G.C.&S.F. Sur., 15 mi. NE of Rock Springs. Spudded.**

### Fisher County

**L. A. Daniels et al No. 1 J. J. Nickless. T.D. 2,785 ft.; set pipe.**

Forrest Dev. Co. No. 1 J. A. Scott, sec. 105, Blk. 2, H.&T.C. Sur. R.U.R.

**Martin & Brubaker No. 1 Brown, W. E. Richardson Sur., sec. 4, Blk. R. Fsg. 2,375 ft.**

**Southern Oil Co. No. 1 Robinson, sec. 173, Blk. 2, H.&T.C. Sur., 2½ mi. NE of Raton. Drlg. 2,415 ft.**

### Gaines County

Landreth Prod. Co. No. 1 C. Cobb, sec. 20, Blk. A-21. Drlg. 3,176 ft.

### Garza County

S. Caprito No. 1 Post Estate, sec. 230, Blk. 5, K. Aycock Sur. S.D. 1,130 ft.

### Glasscock County

**Fleetborn Oil Co. No. 1 Black Arrow, sec. 3, Blk. 34, Twp. 3s, T.&P. Sur. T.D. 1,970 ft.; U.R. csg.**

Shell Pet. Corp. No. 1 McDowell, sec. 41, Blk. 34, Twp. 2s, T.&P. Sur. Drlg. 3,300 ft.

### Hockley County

**Texas Co. No. 1 E. Slaughter, Labour 83, League 38, Zavala Co. Sch. Lds. Drlg. 4,510 ft.**

### Howard County

**R. A. Westbrook et al No. 1 G. T. West, sec. 48, Blk. 33, Twp. 1n, T.&P. Sur. S.D. 1,460 ft.; air decreased to 75,000,000 ft. daily.**

### Hudspeth County

**Haymon Krupp Oil & Ld Co. No. 1 Thaxton, SE¼ sec. 34, Blk. 74, Twp. 6. Drlg. 2,807 ft.**

### Jones County

**Fain-McGaha, Inc., et al No. 1 Lotspeick, sec. 40, Blk. 15, T.&P. Sur. Drlg. 2,147 ft.**

Fain & McGaha No. 1 Swenson, sec. 2, A. D. Norcop Sur. Drlg. 312 ft.

Hugh King, Jr., No. 1 Harris, D. H. Stover Sur. No. 7. Drlg. 1,700 ft.

Martin & Son No. 1 Hayden, Subd. 5, Lot 2, Martinez Sur. Drlg. 969 ft.

**McMann et al No. 1 Dyer sec. 12, Blk. 2, S.P.R.R. Sur. Machine.**

Oyster & Griffith No. 1 Bumpass, A. Jones Sur., 3 mi. SW of Truby. S.D. 2,556 ft.

J. L. Reeves No. 1 Kelly, C. Martinez Sur., 1½ mi. N of Hawley. T.D. 2,251 ft; P.B. 2,225 ft.

T. K. Simmons No. 1 E. A. Hicks, sec. 5, O.A. Lands Sur. Drlg. 2,112 ft.

**Ungren & Frazier No. 1 J. J. Steele, sec. 11, Blk. 15, T.&P. Sur. T.D. 2,487 ft.; pulling pipe; logged saturation in Swastika.**

### Loving County

Mason Oil Co. No. 3 Kyle, sec. 20, Blk. 55, Twp. 1, T.&P. Sur. M.I.R.

### Nolan County

Dr. Robinson Co. No. 1 E. Gabler, sec. 26, Blk. X, T.&P. Sur. S.D. 3,669 ft.

### Pecos County

Adams & Black No. 1 Masterson, 1,650 ft. from SE and 2,310 ft. from SW, sec. 71, Blk. 10, H.&G.N. Sur. M.I.M.

**Bahan & Rhodes No. 1-B Bonebrake, sec. 116, Blk. 8, H.&G.N. Sur. T.D. 2,290 ft.; swedging csg.**

**Hightower Oil Corp. No. 1 Holmes, sec. 6, Blk. C-3, E.L.R.R. Sur. Drlg. 2,470 ft.**

Humble O. & R. Co. No. 1 E. M. Gray, sec. 94, Blk. 11, G.H.&S.A. Sur.; 5,000-ft. test. Drlg. 1,300 ft.

Humble O. & R. Co. No. 1 J. Tippett, sec. 538, Arnold & Bennett Sur. Drlg. 1,100 ft.

A. Kirk et al No. 1 Mrs. B. Young, sec. 49, Blk. 10, H.&G.N. Sur. Loc.

Lee Pet. Corp. et al No. 1 J. L. Nutt, sec. 1, W. D. Henley Sur. S.D. 2,224 ft.

E. R. Minshall, No. 1 Banker, sec. 25, Blk. 146, T.&St.L. Sur. T.D. 2,815 ft.; C.O.

Pinerock Oil Co. No. 1 White & Baker, SE cor. sec. 5, Blk. 207, T.C. Sur. Spd. and S.D.

**S. Thompson No. 1 Elsinore Cattle Co., sec. 54, Blk. D, G.C.&S.F. Sur. Drlg. 4,627 ft.**

Union Oil & Mining Co. No. 1-A Magnolia, sec. 5, Blk. 9, H.&G.N. Sur. Drlg. 1,643 ft.;

**Young No. 1 Bailey, sec. 23, Blk. 178, T.C. R.R. Sur. T.D. 2,000 ft.; ran csg.**

### Presidio County

**L. C. Brite No. 4 fee, C NW¼ sec. 113, Blk. 12, G.H.&S.A. Sur. Drlg. 360 ft.**

**A. H. Main No. 1 Greenlee, sec. 40, Blk. 347, 13 mi. NE of Marfa. Machine.**

### Reagan County

**Bahan & Rhodes No. 1 Kloh, sec. 37, Blk. 37, Twp. 5s, T. & P. Sur., NW cor. of county. T.D. 3,125 ft.; testing.**

### Reeves County

Grisham & Hunter No. 1 Montgomery, sec. 1, W. R. King Sur. Drlg. 2,000 ft.

**J. C. Hill et al No. 1 Ely, 1,320 ft. from N and W, sec. 38, Blk. 71, P.S.L. Sur. Cellar.**

### Schleicher County

J. M. Cooper No. 2 B. Page, 660 ft. from N and E of SE¼, sec. 40, Blk. L, G.H. &S.A. Sur. M.I.T.

**Mangus Oil Co. No. 1 Judkins & Spencer, C SW¼ sec. 4, W. W. Russell, grantee. Elev. 2,209 ft.; T.D. 6,527 ft.; P.B. 5,912 ft.; shot 145 qts. from 5,814-5,920 ft.; C.O.**

### Scurry County

Bristow & Cantrell No. 1 Tomlinson, sec. 122, Blk. 97, H.&T.C. Sur. T.D. 534 ft.; testing.

### Terrell County

**Ohio Oil Co. No. 1 M. H. Goode, sec. 26, Blk. 161, G.C.&S.F. Sur. Drlg. 9,000 ft.**

### Terry County

W. L. Pickens et al No. 1 Lewright, sec. 1, Blk. C-37, P.S.L. Sur. Drlg. 4,860 ft.

### Upton County

Dan Short No. 1 Webb, sec. 174, Blk. E. C.C.S.D.&R.G.N.G. Sur. S.D. 875 ft.

### Ward County

Magnolia Pet. Co. No. 1-55 Sealy, sec. 55, Blk. F, G.M.M.B.&A. Sur. Drlg. 1,700 ft.

L. F. White et al No. 1 Rector-Monroe, E cor. sec. 3, Blk. 1, W.&N.W. Sur. R.U.R.

Wood et al No. 1 Boogher, sec. 8, Blk. 32, H.&T.C. Sur. Drlg. 2,355 ft.

### Winkler County

**Read & Duffey No. 1 Sealey, sec. 8, Blk. A, G.M.M.B.&A. Sur. S.D. 4,520 ft.**

Richardson No. 1-B Walton, sec. 20, Blk. 77, P.S.L. Sur. Drlg. 400 ft.

J. R. Sharp No. 1 Walton, sec. 19, Blk. 77, P.S.L. Sur. Drlg. 3,252 ft.

**York & Harper et al No. 1 Gunter & Munson, sec. 7, Blk. C, G.M.M.B.&A. Sur. Drlg. 2,935 ft.**

### Yoakum County

Bahan et al No. 1 Shook Est., sec. 420, Blk. D, John H. Gibson Sur. Loc.

Magnolia Pet. Co. No. 1 Mrs. M. E. Taylor, 330 ft. from N and E, sec. 201, Blk. D, John H. Gibson Sur. Loc.

## RANGER (CENTRAL TEXAS) DISTRICT

### Callahan County

Canyon O. & G. Co. No. 1 J. O. Kidd, R. A. Pennell Sur. No. 755, 4 mi. NW Cross Plains. S.D. 553 ft.

A. R. Forster No. 1 C. B. Snyder, NW cor. NE¼ county, sec. 139, B.B.B.&C. Sur. Spud. and S.D.

### Coleman County

**Anzac Oil Corp. et al No. 1-H Morris, 12 mi. NE Coleman, J. Harris Sur. No. 77. Drlg. 2,100 ft.**

**Midfield Oil Co. No. 1 T. H. Ward, sec. 274, W. Echels Sur. S.D.O. 1,500 ft.**

### Eastland County

J. T. Anderson No. 1 Crist, 8 mi. N of Rising Star, sec. 36, Lavaca Co. Sch. Lds. Spudded and S.D.

F. J. Estes No. 1 Gentry, A. Popejoy Sur. Fsg. 2,675 ft.

Hoffman & Page No. 1 Dodd, 5 mi. S of Ranger, Subd. 11, William VanNorman Sur. R.U.

States Oil Corp. No. 1 H. S. Schmick, 1 mi. NE Eastland, SE¼ sec. 1, H.&T.C. Sur., Blk. 4. Drlg. 510 ft.

### Hamilton County

**Seaboard Oil Co. No. 1 fee, A. C. Grimes Sur., 10 mi. N of Huntington. Top Ellenberger 4,144 ft.; T.D. 4,348 ft.; S.D.O.; P.B. to treat lime 4,146-69 ft.**

### Jones County

S. C. Herring No. 1 Eleanor Haynes, 1,150 ft. from S and 1,450 ft. from W of sec. 191, S. Andrews Sur., NE edge Sayles pool. Drlg. 545 ft.

Lewis Prod. Co. et al No. 2 Sayles, 240 ft. from N and 1,764 ft. from W of sec. 6, T.&P. Sur., Blk. 20, 880 ft. W No. 1, 1 mi. S Sayles pool. Loc.

### Palo Pinto County

D. H. & C. Drlg. Corp. No. 1 Davenport, 6 mi. SE Palo Pinto, L. F. Margaret Sur. A-309. T.D. 2,000 ft.

Paul Garrett No. 1 Mabry heirs, NE cor. county, sec. 2,572, T.E.&L. Sur. S.D. 649 ft.

W. K. Gordon et al No. 2 Canty, 8 mi. W Palo Pinto, 1,150 ft. from S and 350 ft. from W of SE¼ sec. 42, T.&P. Sur., Blk. 2. Drlg. 860 ft.

### Shackelford County

Dean Bros. et al No. 1 Newell C, sec. 87, E.T.R.R. Sur., 1 mi. SW Cook pool. S.D. 300 ft.

Green, Jones & Stasney No. 1 Davis, 7 mi. S. Morris-Buie pool, sec. 29, T.&P. Sur., Blk. 13. Drlg. 1,650 ft.

Humble O. & R. Co. No. 1 Bowman, 2,310 ft. from S and E of sec. 80, T.&P. Sur., Blk. 12, 7 mi. E SW cor. county. Spudding.

Iron Mountain Oil Co. No. 1 Ivy, NW cor. county, sec. 159, B.B.&C. Sur. U.R. 8¼-in. 1,645 ft.

Jones, Stastney, Groover & Rose No. 1 Davis, 4 mi. S Morris-Buie pool, sec. 10, T.&P. Sur., Blk. 13. Loc.

Frank Oyster et al No. 1 J. C. Swenson, 7 mi. N Morris-Buie pool, sec. 14, A.B. &M. Sur., Abst. 780, Rng. 6⅝-in. 1,620 ft.

Roeser & Pendleton No. 1 Davis, sec. 1, T.&P. Sur., Blk. 13, 220 ft. from E and 1,540 ft. from S lines sec., 10 mi. W Albany. Rig up.

Ungren & Frazier No. 1 McCowan, NW cor. county, sec. 158, B.B.B.&C. Sur. Rng. 8¼-in. 1,408 ft.

Ungren & Frazier et al No. 1 Snyder, 3 mi. SW Sedwick, sec. 26, L.A.L. Sur. S.D. 2,520 ft.

### Stephens County

Aarco O. & G. Co. No. 1 Atkins, 2½ mi. E Crystal Falls, sec. 1,129, T.E.&L. Sur. Spdg. for 4,000-ft. test.

C. B. Christie et al No. 1 E. S. Maury, 4 mi. W of Crystal Falls, J. Koehler Sur., Abst. 26. S.D. 3,600 ft.; M.I.M. to C.O.

W. T. Garret et al No. 1 Echols, 6 mi. SE of Ivan, W½, sec. 10, Blk. 3, S.P.R. R. Sur. Drlg. 3,325 ft.

**Hanrahan & Bedingfield No. 1 Guest, 2 mi. NW Frankell, sec. 30, T.&P. Sur., Blk. 6. Spud. and S.D.**

**Mudge Oil Co. No. 1 S. H. Hill, 3 mi. SW Eliasville, sec. 1,122, T.E.&L. Sur. Drlg. 715 ft.**

### Tarrant County

E. E. Hoffpauir et al No. 2 W. H. Davis, 2 mi. S Arlington, H. Blackwell Sur. Drlg. 1,967 ft.

### Taylor County

Golden Pet. Co. No. 1 C. B. Braune, 750 ft. from N and 1,500 ft. from W of 100-acre tract, sec. 15, League 144, Guadalupe Co. School Lands Sur. M.I.R.

Wm. Hix & Co. No. 1 A. H. Spencer, 330 ft. from N, 1,330 ft. from W of sec. 413, A. McBerth Sur., 5 mi. E Tuscola. Loc. for 4,500-ft. test.

Hal Hughes et al No. 1 Manahan, 5 mi. S Abilene, sec. 14, L.A.L. Sur. Spdg.

### Throckmorton County

**R. J. Williams et al No. 1 W. B. Parrott, 4 mi. NW of Woodson, sec. 961, T.E.&L. Sur. S.D. 2,612 ft.**

### Wise County

**Latex Oil Co. No. 1 Smith, 3 mi. E Bridgeport, Jas Couch Sur., Abst. 104. Spdg. for 4,200-ft. test.**

**Texas-Canadian Dev. Co. No. 1 T. N. Maxwell, NE cor. county, Isham Epps Sur. Drlg. 3,893 ft.**

## Canadian Fields

*(Continued from Page 122)*

Davies Petroleum No. 1, LSD 2, same section has steel derrick up and is installing cable equipment, and will spud early this month. Pat Adams of Calgary is moving combination outfit from the border fields for Sunburst Oil Co. No. 1, N half LSD 1, same section.

### Southwest Turner Valley

In section 20-18-2w5, Southwest Turner Valley, Monarch Royalties No. 1, LSD 9, is below 1,200 feet. Brown Oil Corp. No. 2, LSD 8, same section, is finishing cellar and moving in rotary equipment. Sunset Oils No. 1, LSD 7, is working on cellar.

In section 17-18-2w5, Prairie Royalties No. 1, LSD 16, is rigged ready to spud. Sundance Royalties No. 1, LSD 9, is working on cellar.

Brown Oil Corp. No. 1, LSD 14, section 16-18-2w5, is working on derrick for rotary outfit. Firestone Petroleums No. 1, LSD 13, same section, has preliminary work finished and is waiting for rotary outfit from Foundation Royalties No. 1. Richwell Oil Co. No. 1, LSD 5, is working on cellar. Royal Canadian Oil Co. No. 1, LSD 4, same section, has let drilling contract to the Union Drilling Co. Directors of the Royal Canadian company are Frank Henderson and Scott Keenleyside, of Vancouver, and D. Austin Lane of Calgary.

# PERSONAL

DR. P. M. EDMOND SCHMITZ is technical manager of the refinery department of Petrofina and lecturer at the Ecole Natirnale Superieure du Petrole et des Combustibles Liquides de L'Universite de Strasburg, France. He will serve as Rapporteur General for the section on refining for the World Petroleum Congress, which meets in Paris, France, next June. Some of the most prominent petroleum technologists of the United States will present papers before this section. Doctor Schmitz was formerly chemist in the laboratories of Nobel Brothers at Baku; director of the refinery at Pechelbronn, Alsace; also director of the Vega refinery at Ploesti, Rumania.

MAYNARD J. DAVIES, president of Davies Petroleums, Ltd., has returned to Calgary, Alberta, from a trip to the Pacific Coast.

H. JOHN EASTMAN, president of the Eastman Oil Well Survey Company, is in a Long Beach, Calif., hospital recovering from an operation.

ROBERT P. CLARK, formerly geophysicist for the National Exploration Company at Houston, Tex., has resigned and will take an extended vacation in Ohio.

ED L. SMITH has been transferred from the title and tax department of Ohio Oil Company at Findlay, Ohio, to the lease department in the company's offices at Tulsa.

HARRY E. BRYANT, of Winnipeg, Manitoba, western manager for Kendall Oil Refineries of Canada, Ltd., visited Edmonton, Alberta, recently in the course of a trip through the West.

E. G. THOMPSON, independent geologist of Tyler, Tex., delivered the principal address before the March meeting of Shreveport Geological Society on March 6, his topic being "The Fault System of Northeast Texas."

T. A. MORGAN, Kansas conservation director, announced that the problem of taking potentials and the reclassification of pools will be discussed at a meeting of the Kansas Corporation Commission in Wichita, March 11. Kansas oil producers were invited to attend the meeting.

LYNDON L. FOLEY has resigned as petroleum engineer with the Ohio Oil Company at Tulsa, to enter private work as a consulting engineer and geologist, with offices in Tulsa. JAMES D. WHEELER, resident engineer for the company in the Yates field, will replace him in the Tulsa office.

H. A. (RED) WALLACE, accompanied by MRS. WALLACE, is making a business trip in the United States. Mr. and Mrs. Wallace live in Maracaibo, Venezuela, where Mr. Wallace is assistant to the chief petroleum engineer of the Lago Petroleum Corporation.

J. A. SELBY, land man for the Magnolia Petroleum Company, has been transferred from El Dorado, Ark., to New Orleans, La., where he will be in charge of the new office opened there by the company. W. L. WOOD, also land man for the company, has been transferred from Jackson, Miss., to El Dorado to fill the vacancy left by Mr. Selby's move.

ROBERT I. DICKEY, Midland, Tex., and MISS JOSEPHINE HILL, Breckenridge, Tex., will be married March 18 in the latter city and after a short honeymoon will be at home in Midland where Mr. Dickey is geologist for the Stanolind Oil & Gas Company. Miss Hill has been with the Phillips Petroleum Company in Breckenridge and Midland for several years.

MAURICE LOMBARDI, director of production for the Standard Oil Company of California, with headquarters at San Francisco, Calif., has returned to headquarters after concluding a three weeks' inspection trip of the company's properties in Louisiana, Texas and New Mexico.

DR. PER K. FROLICH, chief chemist of the Standard Oil Development Company, has been made chief of the newly formed chemical laboratories. P. J. BYRNE, JR., is being transferred from the Aruba refinery to assistant chief process engineer. P. E. KUHL has been appointed assistant manager of the process department and DR. F. L. MILLER, formerly in charge of lubricants research at the Esso laboratories, becomes assistant director of that organization.

W. P. DURKEE, vice president of Shell Oil Company; L. G. McLAREN, general sales manager; P. J. PIEROTH, division manager; L. E. DAVID, operations manager; R. F. SCHROEDER, assistant general sales manager; J. E. PENDERGAST, manager of lubricating oil department; JOHN L. COBBS, JR., advertising manager; R. G. LANDIS, assistant advertising manager; C. B. MACGLASHAN, assistant manager, lubricating oil department, and J. S. KENNY, retail field representative, attended the opening of the Shell Sales Show of 1937 at its premier which opened in Los Angeles, Calif., a few days ago.

## Do You Remember?

### From The Oil and Gas Journal Files

**25 YEARS AGO**

The interior department will soon open the balance of the Osage Indian reservation in Oklahoma to the oil industry. A part of the reservation is under lease to the Indian Territory Illuminating Oil Company.

Joseph W. Craig, veteran oil and gas producer and refiner, dies in Sewickley, Pa.

Standard Oil Company (Indiana) stockholders meet and vote to increase the capital stock from $1,000,000 to $30,000,000. W. P. Cowan is president of the company; L. J. Drake, vice president, and G. W. Stahl, secretary and treasurer. These and Dr. W. M. Burton and A. D. Eddy form the directorate.

**20 YEARS AGO**

Two barrels of "cylinder oil" shipped to a consignee in Verdi, Kans., are seized by a prohibition agent and found to be whisky.

The Lima, Ohio, oil field, according to a historical sketch, was opened by a well originally drilled for water, but in which the owners hoped they might find gas. They had no thought of finding oil but they opened one of the country's largest fields.

**10 YEARS AGO**

E. G. Seubert has been elected president of the Standard Oil Company (Indiana) succeeding Dr. W. M. Burton, who retires as president, but retains his place on the directorate. Mr. Seubert started with the company in 1891 as a mechanic's helper at the age of 15 years.

The longest gas line in the world (450 miles) will be laid from the Texas Panhandle field to Kansas City, Mo., where it will furnish industrial fuel.

Sixty-three per cent of the 300,000-barrel daily production of the Seminole field in Oklahoma is owned by companies with pipe line affiliations.

H. F. DUGGAN, of Muskegon, Mich., who has been a member of Old Dutch Refinery personnel for several years, has resigned.

S. M. WILLIAMS, JR., president, Williams Brothers, Inc., Tulsa, is visiting the office here from his headquarters in Chicago.

PAUL EDKIN, of the Bridgeport Machine Company, has been transferred from the company's Tulsa office to New York, to be eastern and export manager.

GORDON ATWATER, formerly scout for the Amerada Petroleum Corporation, Houston, Tex., is now associated with the Skelly Oil Company as geologist.

H. BLOEMGARTEN and H. H. ANDERSON, vice presidents of Shell Petroleum Corporation, St. Louis, Mo., were visitors at the company's Tulsa offices last week.

TOM PALMER, president of the Palmer Oil Corporation, Wichita, Kans., has joined the ranks of the flying oil operators. He recently purchased a new Wright-Stinson cabin plane.

W. J. LANCE is new acting head of the engineering and scouting department of Transwestern Oil Company at Oklahoma City, Okla. Formerly he was in the engineering department of Sinclair Prairie Oil Company.

FRANK CHAMPION, general sales manager for the oil tool division of Byron Jackson Company, is now in New York City following the Mid-Continent sales meeting of his organization held at Fort Worth, Tex. Returning through the Mid-Continent, Mr. Champion expects to be back in California about the middle of March.

# PARAGRAPHS

C. B. DONOVAN, formerly with the Oil Well Supply Company, Hobbs, N. Mex., has joined the engineering staff of the Carter Oil Company.

HOWARD B. HALL has been appointed regional director of the Foster Wheeler Corporation in charge of its Cleveland, Cincinnati and Pittsburgh territories. Mr. Hall assumed his duties as of March 1, and will make his headquarters in the Cleveland office of the corporation. The experience of Mr. Hall covers a wide range of industrial activity, and for the last eight years he has been director of the industrial division of Murray and Flood, consulting engineers.

DEAN FRANK C. WHITMORE, of the school of chemistry and physics of the Pennsylvania State College, president-elect of the American Chemical Society, on March 5, received the William H. Nichols Gold Medal, highest distinction of the New York section of the society, at a dinner given jointly by the section and the Society of Chemical Industry at the Hotel Pennsylvania. More than 400 scientists united in honoring Dean Whitmore, who was awarded the medal for studies in "metallo-organic compounds, and in the field of asphaltic chemistry, particularly in molecular rearrangements and in the polymerization of olefins."

C. R. DOOLEY, industrial relations manager of the Socony-Vacuum Oil Company, Inc., has accepted chairmanship of the petroleum division of the Commerce and Industry Committee to solicit contributions in New York for the Salvation Army.

CARL FRYER, analytical chemist of the Pure Oil Company, has been transferred from the Muskogee refinery to the company's refinery at Smith's Bluff, Tex. FRANK CLEGG, chief tester, was transferred to refinery at Cabin Creek, W. Va.

ANDRES ROZLOSNIK, representing the Argentine government oil field regime, has completed an inspection of the Texas and Louisiana oil fields and he was continuing his tour in the Oklahoma fields the past week. He plans to attend the convention of the American Association of Petroleum Geologists in Los Angeles in March, and then will return to Buenos Aires. He is chief of the department of exploration and production of the Yacimientos Petroliferos Fiscales, the Argentine oil field organization.

J. W. GILLILAND, well known East Texas operator, has been elected president of the General American Oil Company of Texas, headquarters in Shreveport, La. Mr. Gilliland was prominent in the development of the East Texas field through the organization and operation of the Gilliland Oil & Refining Company, Tyler, Tex., which was merged about eight months ago with the holdings of RALPH G. TRIPPETT and A. H. MEADOWS, to form the General American Oil Company of Texas, which now operates one gasoline plant and three cracking refineries.

FORD TURNER, scout and land man for the Pure Oil Company, has been transferred from Midland, Tex., to the division offices of the company at Fort Worth, Tex.

ART NIXON, with the Happy Belting Company, Tulsa, has just completed a business trip to various points in Texas.

A. W. PARKS, J. H. ANDERSON, J. C. KITCHEN, JOSEPH WARWICK and KAVANAUGH SPROULE were recently reelected directors of the Oil Springs Oil & Gas Company, of Oil Springs, Ontario.

GEORGE CARD, petroleum engineer for the Stanolind Oil & Gas Company, Tulsa, is being transferred to Fort Worth, Tex., as chief petroleum engineer for the company in the Southwest division.

L. P. ST. CLAIR, president; R. D. MATTHEWS, executive vice president, and PAUL M. GREGG, W. W. ORCUTT and W. L. STEWART, JR., vice presidents, were reelected to their respective offices at the annual meeting of the Union Oil Company held in Los Angeles, Calif., March 2.

A. W. BRANSCUM, who has been engaged in field sales for W. C. Norris, Manufacturer, Inc., for a number of years in Oklahoma, has been transferred to Big Spring, Tex., as manager of the company's branch located at that point. Mr. Branscum succeeds GLENN HOLTZMAN, resigned.

E. A. WAHLSTROM, chief petroleum engineer for the Stanolind Oil & Gas Company, Fort Worth, Tex., has resigned that position to become chief engineer for the Goldsmith Operators, an organization formed by companies and individuals holding leases and developing the Goldsmith-Scharbauer-Cummins area in western Ector County. E. A. LANDRETH is acting chairman of the organization which is now drawing up permanent organization papers. Mr. Wahlstrom will have headquarters at Midland, Tex., and in the field.

## Mr. Horne Goes Higher

A. N. Horne, newly appointed manager of the Empire Oil and Refining Company's pipe line division, has been with the Doherty interests since he graduated from Mississippi A. and M. College in 1918, except for time out for service in the Tank Corps during the World War. Mustered out as a first lieutenant, he worked as a laborer in a pipe line construction gang. Then he served as timekeeper and field gauger. In 1922 Mr. Horne was made district superintendent for Empire in the Duncan, Okla., district, then in the Ponca-Cushing district. In 1927 he was transferred to Bartlesville, Okla., as superintendent of pipe line operations, and two years later he was made general superintendent, continuing in that position till his recent advancement to manager.

*A. N. HORNE*

While the young man was attending Mississippi A. and M. College, from which he graduated as an electrical engineer in 1918, he got vacation jobs around lumber mills in southern Mississippi. Perhaps that was where he acquired an enthusiasm for woodworking. His favorite diversion is making odd chairs, candlesticks, etc. One of his creations of which he admits being intensely proud is a hand-carved coffee-table. He is active in the Woodpeckers Club, composed of men whose hobby is woodworking.

Mr. Horne married Miss Martha Bunch, and they have one son. He is a captain in the Organized Reserves. He was born in Matherville, Miss., in 1894.

JOHN D. LIVELY, warehouseman for the Gulf Oil Corporation at Breckenridge, Tex., has been transferred to Fort Worth, Tex., and made material auditor.

HOWARD S. BRYANT, district geologist for Skelly Oil Company, at Wichita, Kans., was a business visitor at the company's headquarters in Tulsa last week.

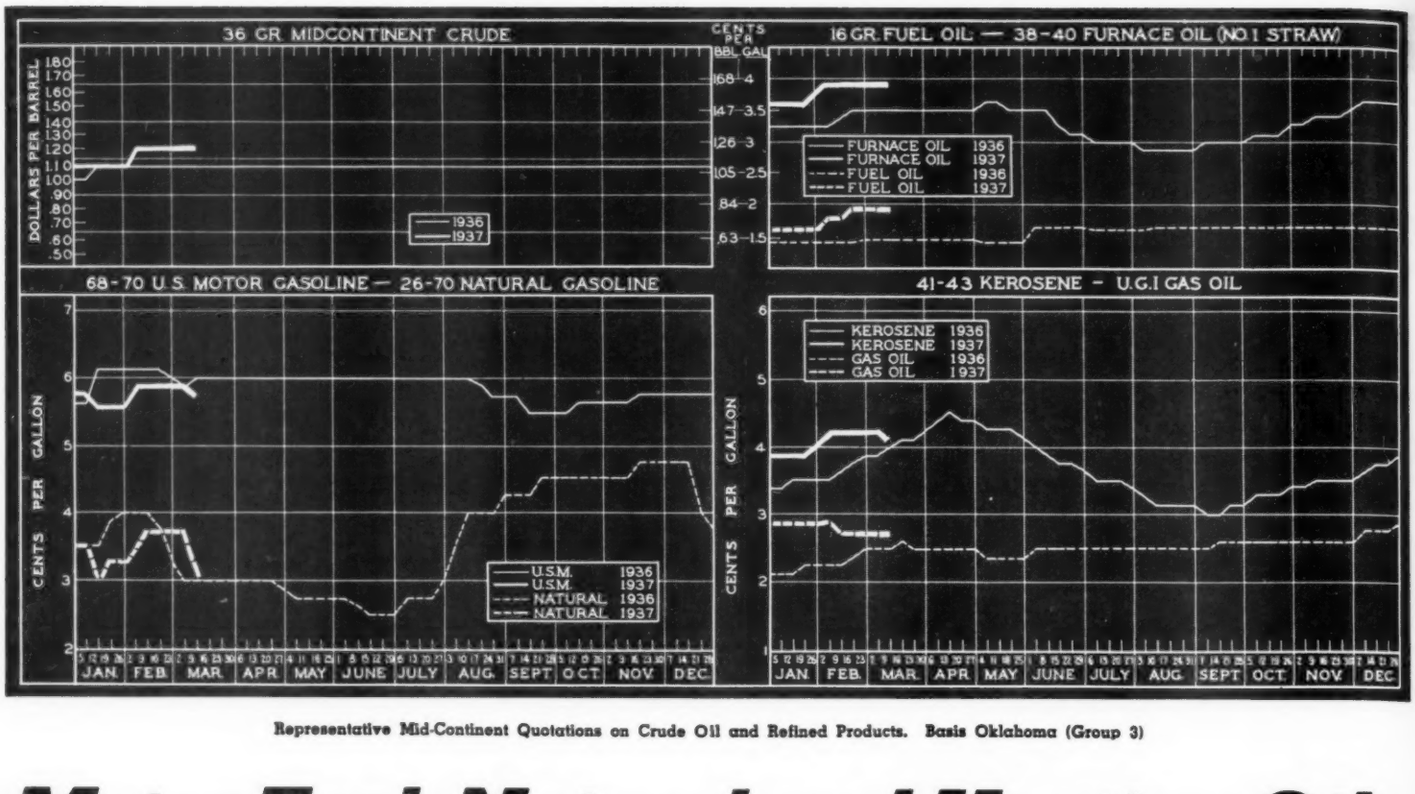
W. A. GOFORTH, of Tulsa, president of the Valley-Osage Oil Company, is in the Laredo district in the Southwest Texas field looking over company properties.

D. E. BUCHANAN, president of Hanlon-Buchanan, Inc., Tulsa, is on a short trip to Florida, where his family has spent a part of the winter. They will return together.

E. H. MOORE, of Tulsa, president of E. H. Moore, Inc., and K. R. TEIS, engineer, are in California watching the progress of a well of the company's being drilled in the Santa Maria Valley.

J. L. ESSLEY, president of the Superior Oil Corporation, FRANK NEELY and FRANK McKAY, vice presidents, have returned to Tulsa after business trips. Mr. Essley was in the East and Messrs. Neely and McKay in Texas and Louisiana.

E. M. WILSON, formerly district superintendent, production department, for the Magnolia Petroleum Company in East Texas, has been transferred to Oklahoma City, Okla., to become district superintendent for the company. E.D. SMITH, superintendent at Oklahoma City, was promoted to the headquarters of the Magnolia Petroleum Company at Dallas, Tex., where he will be assistant to the general manager of production.




**Representative Mid-Continent Quotations on Crude Oil and Refined Products. Basis Oklahoma (Group 3)**

# *Motor Fuel, Natural and Heating Oils Are Soft Spots in Group 3 Market*

**By T. F. SMILEY**

Both refinery gasoline and natural developed weakness in the Group 3 market in the past week. Kerosene too was less robust. Furnace oils were showing signs of weariness. Bright stocks were buoyant. Heavy fuel prices were firm and the material was hard to get.

Observers pointed to a cluster of reasons in explanation of the slipping gasoline market. The one singled out as especially responsible was the immense volume of material going to storage as an incident to the manufacture of heavy industrial fuel. Attention was directed to the fact that the industry entered March with the largest gasoline stocks in its history, about 5,000,000 bbls. in excess of the quantity recorded a year ago. Notwithstanding the generally cheerful mood, many refiners express uneasiness over these huge inventories.

### *SNOW INTERFERES WITH TRAVEL*

Another retarding influence lies in the heavy snows blanketing great areas in Minnesota, Wisconsin and the Dakotas, all drawing on Group 3 refiners for motor fuel. Highway travel has been impeded so seriously as to cut heavily into gasoline sales.

So far as could be ascertained no Oklahoma refiners had very burdensome stocks. In fact, one large company, on noting the reports of lower prices let it be known that it was in the market for any high-grade gasoline obtainable at the shaded figures. It was said to have found none. Some third-grade material in the hands of North and West Texas refiners who have inadequate storage facilities was said to be looking for buyers. A similar condition was said to exist in East and North Texas with reference to 63-octane material. Though the total of all this gasoline was relatively small, it apparently was sufficient to exert a bearish effect. Export trade is brisk.

## Refined Oil Market Barometer

Various influences have combined to soften gasoline in the Mid-Continent area, but in other regions it is holding well, and a general steadying of the market is expected with favorable motoring weather, notwithstanding huge stocks. Heating oils are beginning to lag seasonally. Kerosene also is in less insistent demand, but spring agricultural consumption should tighten it.

MID-CONTINENT. Gasoline and kerosene easier. Natural weak. Bright stocks brisk.

EAST COAST. Fuel oils lagging. Gasoline improved. Cylinder stocks up.

GULF COAST. Gasoline firm. Kerosene and burning oils firm.

CALIFORNIA. General market inactive but steady.

PENNSYLVANIA. Kerosene and third-grade gasoline off. Bright stocks very strong.

CHICAGO. Gasoline picking up moderately. Mild weather affecting heating oils.

The retail market in Oklahoma was improved by the ending of a gasoline price war in Oklahoma City. Service station operators, it was said, had agreed to post prices of 16, 18 and 20 cents for the third-grade, regular and premium motor fuels by the middle of the current week. Price-cutting had gone to such length as to create serious losses and to threaten the jobs of hundreds of station employes.

The drop in natural gasoline prices was described as seasonal, though it was admitted that such a sharp descent had not been expected. The February of 1937 was the best in years for the natural gasoline trade. The outlook for the whole year is viewed cheerfully, but right at this juncture there is more 26-70 than refiners will buy. One reason is that these same refiners in many cases have made gasoline which is finding no outlet and they are in no hurry to make up more.

Natural gasoline production in Kansas has reached a stage where it has become a substantial market factor. Kansas refiners are unable to absorb it all, with the result that it moves north and east in competition with Oklahoma and Texas material.

Heretofore natural gasoline at the current level of prices has stirred inquiries from overseas, but a recent increase in tanker rates has neutralized the price advantage this time, and quotations may have to go much lower before they will invite the interest of foreign buyers. Domestic demand for stabilized grades, principally 18- and 22-pound, was expected to become more active soon.

### *KEROSENE EASIER*

Kerosene, which had been putting up a sparkling performance since late January, eased off a bit in the past week. This material is in the trough between two peaks of demand, the one now waning and the one expected to develop soon with the rise in agricultural consumption of tractor fuel.

A few price changes appeared in the furnace oils, and the group was easier this week. Jobbers will buy no more than they have to, since carelessness in this respect might mean they would have to carry over stocks to the next season.

Bright stocks were exhibiting marked strength, helped by active export demand. Following the latest advance in Pennsylvania bright stocks, there was talk of a probable increase in Oklahoma. Steam-refined stocks were firm. Wax eased moderately, without change in prices.

# Record-Breaking Sales of Gasoline in East Sustain Refiners' Optimism

By H. STANLEY NORMAN

NEW YORK, Mar. 9.—Although lagging interest and lower prices in the fuel oil market came somewhat earlier than anticipated, the accompanying increase in gasoline market activity left unchanged the general optimistic outlook of northeastern refiners. Prices lowered by an eighth to a quarter of a cent per gallon on most grades of fuel oil at tankcar loading terminals stimulated jobber interest to some extent, but refiners realize that at best the burning season is nearing this winter's conclusion. Light fuel oils were reduced by most leading marketers early last week a quarter of a cent per gallon, while most of the heavier grades were off an eighth of a cent. In most instances, however, the spot delivery tankcar market remains slightly higher than prices in over-the-winter contracts and the decline is a normal leveling off process, which is to be expected with restricted interest.

In addition to increased interest in the gasoline tankcar market, refiners found further justification for optimism in the strength of the cylinder stocks, which were up generally a half cent, and in the export demand for gas oil and gasoline. Export buyers are particularly active in the Pennsylvania cylinder oil market, and are purchasing most of the offerings of both bright and dark stocks at the increased price levels, and apparently glad to obtain the material.

The Pennsylvania cylinder oil market advanced a half cent within a few days after crude purchasers increased posted field prices 10 cents per barrel. In contrast to the cylinder oil market trend, however, western Pennsylvania refiners are still having difficulty in moving their production of third grade gasoline, particularly in competition with material for blending produced in the Michigan area. While the low grade Pennsylvania gasoline is no longer considered a finished refined product, the price has been frequently lowered without arresting the drift into weaker ground. At the close of last week another cut was in prospect in an effort to halt inroads on normal business channels by Michigan refiners.

Major marketers lowered their tankcar gasoline prices at New York and New Jersey terminals to 5½ cents per gallon, but considerable business was reported at the end of the week at 5⅝ cents. Smaller volumes of material were turning for as low as 5⅛ cents per gallon, however, and little relief was in sight until the spring plowing season gets under way. Snowfall in the New England states and in northern New York during the middle of last week stimulated kerosene demand in that local section for a temporary period, but general tone of the kerosene and light burning oil markets is waning.

Lower fuel oil prices served to heighten interest of jobbers for a few days, but it had subsided by close of the week. Jobbers entering the fuel oil market when price reductions were announced, purchased only small quantities and acquired only sufficient material to supply their estimated requirements over remainder of the heating season.

In contrast to the immediate fuel oil outlook, gasoline suppliers were reporting record first-of-March business following a similar all-time peak demand during January and February. The record consumption figures have been amassed despite almost uninterrupted rainy week-ends since the last of December. While the week-ends have not been so severe that driving was impossible, many of the conservative automobile operators were content to stay in and avoid limited visibility and slippery pavements. With prospects that a majority of the 1937 estimated consumption of 520,000,000 bbls. of gasoline will be jammed into the next six months, refiners are giving more consideration to the position of available crude supplies and to the transportation question.

One concern which has been aligned with the more conservative units in the industry during the past six months is known to be thinking in terms of higher crude prices before middle of the year. This same quarter is concerned over ability of the coastwise tanker fleet to move required volumes of material from the Gulf Coast to the north Atlantic seaboard terminals. Several new tankers are now nearing completion in the various ship-building yards along the Pennsylvania and New Jersey coast, but most of these will not be available until fall, or later. Shortage of boats might produce a checkmate in the markets in that inability to move required refined products north could increase the motor fuel market in north Atlantic districts, but at the same time permit crude to stack up on the Gulf Coast. Indicating that tanker vessels are none too plentiful is the consistently high chartering rates prevailing.

Due to withdrawal of Russia from most of the exterior European market, most of the gas oil consumers previously supplied by the U.S.S.R. are now turning to the U.S.A. for current requirements. Four cargoes of 30-plus translucent gas oil have been sold to European consumers since the middle of February, and other inquiries are in the market. Suppliers are generally quoting 4 cents per gallon for immediate or near future loading, scaling down to 3.875 cents for June and July delivery. A cargo of 64-66, 375 endpoint motor fuel for April loading was sold on the Gulf Coast last week for 6.25 cents. The U.S.S.R. is not renewing several long-term gas-oil contracts with Italian, French, German and British customers which had been serviced for many years from that quarter. Little likelihood exists that the U.S.S.R. will soon return to a position of supplying the open market requirements of European importing countries since the Soviet program of industrialization probably will absorb about all the increased production engineers can attain.

Wax markets in Pennsylvania and New York remained mostly unchanged last week although buyers appeared a little less active. Practically no surplus exists at New Orleans. Wax suppliers in New York were generally asking and receiving 2.65 cents per pound for all material moved.

Motor fuel retail conditions remain unsatisfactory in parts of the northeastern territory, particularly in New York City, northern New Jersey and in scattered cities in the New England states. These conditions may be improved in the near future, if the trends continue in the tankcar market. Most stations in metropolitan New York are quoting 98 cents for 6 gallons of regular "house brand" gasoline. Marketing conditions in suburban areas surrounding New York, with exception of northern New Jersey, are in more stable condition.

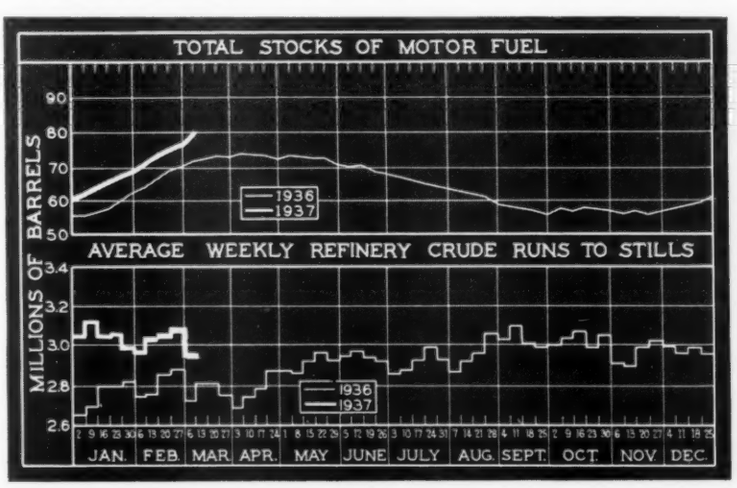
Despite the fractional reductions in domestic and certain grades of industrial fuel oil, Bunker C material is steady at $1.20 per barrel in New York harbor and diesel fuel is unchanged at $1.65 per barrel. Industrial consumers of the heaviest grades of fuel oil are ordering against contracts at a brisk rate, probably reflecting greater activity in manufacturing of all types, but particularly in the case of the durable good industries. Suppliers, however, are still giving some consideration to higher prices. Competitive fuel suppliers also are making unusual efforts to win trade.

## *A. P. I. Weekly Refinery Statistics*

**Week Ending March 6, 1937**

| | Capacity reporting (per cent) | Daily crude runs (bbls.) | Total gasoline (bbls.) | Gas oil and fuel oil (bbls.) |
|---|---|---|---|---|
| East Coast | 100.0 | 509,000 | 16,625,000 | 7,432,000 |
| Appalachian | 88.4 | 101,000 | 2,763,000 | 559,000 |
| Indiana, Illinois, Kentucky | 92.1 | 408,000 | 12,995,000 | 4,674,000 |
| Oklahoma, Kansas, Missouri | 84.6 | 285,000 | 9,578,000 | 2,783,000 |
| Inland Texas | 54.3 | 119,000 | 2,339,000 | 1,251,000 |
| Texas Gulf | 95.5 | 628,000 | 10,965,000 | 6,251,000 |
| Louisiana Gulf | 96.3 | 125,000 | 1,638,000 | 1,436,000 |
| North Louisiana and Arkansas | 63.7 | 41,000 | 450,000 | 245,000 |
| Rocky Mountains | 69.7 | 33,000 | 1,846,000 | 718,000 |
| California | 90.9 | 460,000 | 14,736,000 | 70,638,000 |
| Total reported | 88.8 | 2,709,000 | 73,935,000 | 95,987,000 |
| Estimated unreported | ..... | 221,000 | 6,167,000 | 3,128,000 |
| *Estimated total | ..... | 2,930,000 | 80,102,000 | 99,115,000 |
| *Estimated total previous week | ..... | 3,085,000 | 78,786,000 | 99,534,000 |
| *March 7, 1936 | ..... | 2,725,000 | 72,281,000 | 95,888,000 |

*Bureau of Mines basis, currently estimated.



# RETAIL OIL MARKETS

Tank-wagon and filling station prices on gasoline and kerosene furnished by the larger marketing firms

Prices as of March 9, 1937

## Taxes

The gasoline quotations given in the following tables include the 1-cent federal tax, as well as state, county and city taxes. The gasoline is the regular or standard grade. In most areas a third grade and a premium grade are also available.

## Standard Oil Co. (Indiana)

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wag. | Dlr. | Inc. tax | tank-wag. |
| Chicago, Ill. | 16.0 | 14.0 | 4.0 | 10.1 |
| Decatur | 16.0 | 14.5 | 4.0 | 10.1 |
| Joliet | 16.0 | 14.5 | 4.0 | 10.1 |
| Peoria | 16.0 | 14.5 | 4.0 | 10.1 |
| Quincy | 15.8 | 14.3 | 4.0 | 9.9 |
| Davenport, Ia. | 16.0 | 14.5 | 4.0 | 10.1 |
| Des Moines | 15.8 | 14.3 | 4.0 | 9.9 |
| Mason City | 16.2 | 14.7 | 4.0 | 10.3 |
| Sioux City | 16.0 | 14.5 | 4.0 | 10.1 |
| Duluth, Minn. | 15.8 | 15.3 | 4.0 | 10.9 |
| Mankato | 16.4 | 14.9 | 4.0 | 10.5 |
| Twin Cities | 16.4 | 14.9 | 4.0 | 10.5 |
| La Crosse, Wis. | 17.4 | 15.9 | 5.0 | 10.5 |
| Green Bay | 17.7 | 16.2 | 5.0 | 10.8 |
| Milwaukee | 17.3 | 15.8 | 5.0 | 10.4 |
| Detroit, Mich. | 15.1 | 13.6 | 4.0 | 9.8 |
| Grand Rapids | 16.5 | 15.0 | 4.0 | 10.9 |
| Saginaw | 16.3 | 14.8 | 4.0 | 10.7 |
| Evansville, Ind. | 17.5 | 16.0 | 5.0 | †10.6 |
| Indianapolis | 17.7 | 16.2 | 5.0 | †9.6 |
| South Bend | 17.9 | 16.4 | 5.0 | †9.6 |
| Fargo, N. Dak. | 17.4 | 15.9 | 4.0 | 11.5 |
| Minot | 18.6 | 17.1 | 4.0 | 12.7 |
| Huron, S. Dak. | 17.8 | 16.3 | 5.0 | 10.9 |
| Kans. City, Mo.* | 15.4 | 13.9 | 4.0 | 8.9 |
| St. Louis* | 15.7 | 14.2 | 4.0 | 9.8 |
| St. Joseph* | 15.4 | 13.9 | 4.0 | 9.5 |
| Wichita, Kans. | 14.9 | 13.4 | 4.0 | 8.9 |

*State tax 2 cents, 1-cent city tax and 1-cent federal tax. †Does not include 4-cent state tax.

(Exclusive of state general sales taxes except Indiana and South Dakota.)

Discounts to commercial consumers: On purchases per month off tank-wagon prices: 1,000 gallons or more, 1.5 cents off, minimum delivery 25 gallons.

## Stanolex Fuel Oil in Chicago

Effective Dec. 7, 1936, f.o.b. Chicago tank-wagon prices: Range oil, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.3 cents. Stanolex No. 1, 1-99 gallons, 8.8 cents; 100-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex furnace oil, 1-149 gallons, 7.8 cents; 150 gallons and over, 7.0 cents. Stanolex A, 1-399 gallons, 5.75 cents; 400 gallons and over, 4.75 cents. Stanolex B, 1-799 gallons, 5.75 cents; 800 gallons and over, 4.75 cents.

## Atlantic Coast District

STANDARD OIL CO. OF NEW JERSEY

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wag. dlr. | Tank car con'r. | Inc. tax | tank-wag. |
| Atl'tic City, N.J. | 13.0 | 11.5 | 4.0 | 8.0 |
| Newark | 12.5 | 11.5 | 4.0 | 8.0 |
| Annapolis, Md. | 15.1 | 13.6 | 5.0 | 10.0 |
| Baltimore | 14.5 | 13.0 | 5.0 | 9.0 |
| Cumberland | 16.9 | 14.4 | 5.0 | 10.0 |
| Wash'g'n, D.C.* | 12.5 | 11.0 | 3.0 | 9.0 |
| Danville, Va. | 17.7 | 15.2 | 6.0 | 12.9 |
| Norfolk | 16.5 | 14.0 | 6.0 | 11.5 |
| Petersburg | 16.8 | 14.3 | 6.0 | 11.7 |
| Richmond | 16.8 | 14.3 | 6.0 | 11.7 |
| Roanoke | 18.0 | 15.5 | 6.0 | 12.9 |
| Charles'n, W. Va. | 16.3 | 13.8 | 5.0 | 12.6 |
| Parkersburg | 15.6 | 13.1 | 5.0 | 11.2 |
| Wheeling | 15.5 | 14.0 | 5.0 | 12.2 |
| Charlotte, N. C. | 18.9 | 16.4 | 7.0 | 12.6 |
| Hickory | 19.4 | 16.9 | 7.0 | 13.0 |
| Mt. Airy | 19.2 | 16.7 | 7.0 | 12.8 |
| Raleigh | 18.5 | 16.0 | 7.0 | 12.1 |
| Salisbury | 19.0 | 16.5 | 7.0 | 12.7 |
| Charleston, S. C. | 17.5 | 15.0 | 7.0 | 11.1 |
| Columbia | 18.5 | 16.0 | 7.0 | 12.1 |
| Spartanburg | 19.2 | 16.7 | 7.0 | 12.9 |

*Standard of N. J. has discontinued posting service-station prices at all above points except at Washington where a station price of 16 cents is in effect.

Price basis to commercial consumers, effective Nov. 2, 1936, in New Jersey, Maryland, District of Columbia and small portion of Virginia: On deliveries of 500 gallons or more by hose connection, consumer tankcar price plus .5 cent; less than 500 gallons, plus .75 cent, not taking deliveries by hose connection, plus 1 cent.

Effective Jan. 7, 1937, in greater portion of Virginia and in West Virginia differential above tankcar price on yearly purchases: up to 35,999 gallons, 2.5 cents over tankcar; 36,000 to 119,999 gallons, 2.0 cents; 120,000 to 239,999 gallons, 1.5 cents; 240,000 to 479,999 gallons, 1 cent; over 480,000 gallons .5 cent over tankcar price.

Effective Jan. 25, 1937, in North and South Carolina: Deliveries of 50 gallons or more by tank-wagon billed at price 2 cents over posted consumer tankcar price in effect at time and place of delivery. Deliveries less than 50 gallons billed at price .6 cent over posted tankcar price. Discount for kerosene, 1 cent off tank-wagon price for 25 gallons or more under contract (contract not necessary in Baltimore) except no discount in New Jersey.

## Southern District

STANDARD OIL CO. OF KENTUCKY

| | Gasoline | | | Kero |
|---|---|---|---|---|
| | Tank wag. | Net dlr. | Inc. tax | tank-wag. |
| Atlanta, Ga. | 22.0 | 19.0 | 7.0 | *14.5 |
| Augusta | 21.0 | 18.0 | 7.0 | *14.0 |
| Macon | 21.5 | 18.5 | 7.0 | *14.5 |
| Savannah | 20.0 | 17.0 | 7.0 | *13.0 |
| Birm'ham, Ala. | 22.0 | 19.0 | 8.0 | 13.0 |
| Mobile | 22.0 | 19.0 | 9.0 | 11.0 |
| Montgomery | 23.0 | 20.0 | 9.0 | 12.5 |
| Jackson, Miss. | 21.0 | 18.0 | 7.0 | *13.0 |
| Vicksburg | 20.5 | 17.5 | 7.0 | *13.0 |
| Jacksonville, Fla. | 20.5 | 17.5 | 8.0 | 11.0 |
| Miami | 20.5 | 17.5 | 8.0 | 12.5 |
| Pensacola | 23.0 | 20.0 | 9.0 | 12.0 |
| Tampa | 21.5 | 18.5 | 8.0 | 12.0 |
| Lexington, Ky. | 19.5 | 16.5 | 6.0 | 11.0 |
| Covington | 19.0 | 16.0 | 6.0 | 11.0 |
| Louisville | 19.5 | 16.5 | 6.0 | 10.5 |
| Paducah | 19.0 | 16.0 | 6.0 | 10.0 |

Price basis to tank-wagon consumers: Effective January 4, 1937, 3 cents per gallon below tank-wagon price. Kerosene prices in all states subject to 2 cents discount except in Kentucky where prices are net.

*Includes 1 cent state tax. Montgomery, Ala., has a county tax of 1 cent per gallon, and a city tax of 1 cent per gallon on gasoline, in addition to state tax; and 1 cent per gallon on kerosene. Mobile, Ala., has a city gasoline tax of 2 cents per gallon; Birmingham, Ala., has a city gasoline tax of 1 cent per gallon. Pensacola, and Tampa, Fla., have a city gasoline tax of 1 cent.

## Rocky Mountain District

CONTINENTAL OIL CO.

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Dealer | Serv. sta. | Inc. tax | tank-wag. |
| Denver, Colo. | 17.5 | .... | 5.0 | 11.5 |
| Grand Junction | 20.0 | .... | 5.0 | 15.0 |
| Pueblo | 15.5 | .... | 5.0 | 10.5 |
| Casper, Wyo. | 18.0 | .... | 5.0 | 11.5 |
| Cheyenne | 18.0 | .... | 5.0 | 13.0 |
| Butte, Mont. | 19.5 | .... | 6.0 | 15.5 |
| Billings | 21.5 | .... | 6.0 | 15.5 |
| Helena | 21.5 | .... | 6.0 | 15.5 |
| Great Falls | 21.5 | .... | 6.0 | 15.5 |
| Salt Lake, Utah | 19.5 | .... | 5.0 | 16.0 |
| Twin Falls, Ida. | 21.5 | .... | 6.0 | 18.0 |
| Boise | 21.0 | .... | 6.0 | 18.0 |
| Albu'que, N. M. | 17.5 | .... | 6.5 | 12.0 |

## Ohio

STANDARD OIL CO. OF OHIO

| | Gasoline | | | Kero |
|---|---|---|---|---|
| | Tank wag. | Serv. sta. | Inc. tax | tank wag |
| Ohio points | 18.0 | (†) | 5.0 | *13.5 |

*Includes state tax of 1 cent.

†Following the leasing of service stations to dealers at many points the company no longer posts a statewide service station price.

## Pacific Coast Territory

STANDARD OIL CO OF CALIFORNIA

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wag. | Serv. sta. | Inc. tax | tank-wag |
| San Francisco | 17.0 | 18.0 | 4.0 | 11.5 |
| Los Angeles | 16.5 | 17.5 | 4.0 | 9.0 |
| Fresno, Calif. | 18.0 | 19.0 | 4.0 | 12.0 |
| Phoenix, Ariz. | 20.5 | 21.5 | 6.0 | ‡16.0 |
| Reno, Nev. | 19.5 | 20.5 | 5.0 | 13.0 |
| Portland, Ore. | 19.5 | 20.5 | 6.0 | 13.5 |
| Seattle, Wash. | 19.5 | 20.5 | 6.0 | 13.5 |
| Tacoma | 19.5 | 20.5 | 6.0 | 13.5 |
| Spokane | 22.5 | 23.5 | 6.0 | 16.5 |

‡Includes 5-cent state tax.

Discounts to dealers: On gasoline, off tank-wagon price, to 100 per cent dealers, 3 cents; to split dealers, 2 cents. To commercial consumers: on tank-wagon price: on single deliveries of 40 gallons and over, advance quantity discount extended at time of delivery, 3 cents. Service station schedule applies on single deliveries less than 40 gallons. On kerosene in tankcar, transport truck and trailer delivery, 3 cents off tank-wagon price; plant deliveries to jobbers, 2.5 cents below tank-wagon.

## New York and New England

SOCONY-VACUUM OIL CO., INC.

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wag. dlr. | Tank car con'r. | Inc. tax | tank-wag. |
| Albany, N. Y. | 13.5 | 12.0 | 4.0 | 7.75 |
| *Met. N. Y.: | | | | |
| Manh't'n, Br'nx | 13.5 | 12.0 | 4.0 | 7.25 |
| State Island | 13.75 | 12.0 | 4.0 | 7.25 |
| Q'ns & Brklyn | 13.5 | 12.0 | 4.0 | 7.25 |
| Buffalo | 14.3 | 12.67 | 4.0 | 8.25 |
| Rochester | 14.3 | 12.74 | 4.0 | 8.25 |
| Syracuse | 14.3 | 12.7 | 4.0 | 8.75 |
| Boston, Mass. | 13.5 | 12.0 | 4.0 | 7.50 |
| Portland, Me. | 15.3 | 13.0 | 5.0 | 7.75 |
| Manch'ter, N. H. | 15.8 | 13.5 | 5.0 | 8.00 |
| Burlington, Vt. | 15.4 | 13.4 | 5.0 | 8.75 |

*Does not include 2 per cent city sales tax which is calculated on basis of net retail price exclusive of state and federal taxes.

Price basis to undivided dealer: Posted dealer tank-wagon price less .5 cent. Price basis to commercial consumer: Effective Nov. 16, 1936, monthly purchases of 25,000 gallons and over, consumer tankcar prices at delivery point plus .5 cent per gallon; monthly purchases of 5,000 to 25,000 gallons, undivided dealer price at delivery point: Monthly purchases under 5,000 gallons, pay divided dealer tank-wagon price at delivery point.

## Pennsylvania, Delaware and Part of New England

ATLANTIC REFINING CO.

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wag. dlr. | Tank car con'r. | Inc. tax | tank-wag. |
| Philadelphia, Pa. | 14.0 | 12.5 | 5.0 | 10.5 |
| Pittsburgh | 15.5 | 13.5 | 5.0 | 11.0 |
| Allentown | 14.5 | 13.25 | 5.0 | 11.0 |
| Erie | 14.5 | 13.0 | 5.0 | 11.0 |
| Scranton | 14.5 | 13.25 | 5.0 | 11.0 |
| Altoona | 15.5 | 13.5 | 5.0 | 11.0 |
| Dover, Del. | 14.5 | .... | 5.0 | 11.0 |
| Wilmington | 13.5 | .... | 5.0 | 11.0 |
| Springf'd, Mass. | 13.8 | .... | 4.0 | 7.5 |
| Worcester | 14.3 | .... | 4.0 | 8.0 |
| Hartford, Conn. | 13.6 | .... | 4.0 | 7.5 |
| NewHaven | 13.5 | .... | 4.0 | 8.0 |
| Providence, R.I. | 12.5 | .... | 3.0 | 7.5 |

Atlantic has transferred all stations to dealers except in Philadelphia and Pittsburgh where prices are 17.5 and 20.0 cents per gallon respectively.

Price basis to undivided dealers—Dealer tank-wagon less .5 cent per gallon.

Consuming accounts not under contract—when made by tank-wagon in quantities of 50 gallons or over, dealer price.

Commercial accounts under contract—annual consumption 2,500 to 100,000 gallons per year, 1 cent above posted tankcar price; over 100,000 gallons per year, .5 cent above posted tankcar price.

## Nebraska

STANDARD OIL CO. OF NEBRASKA

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wag | Dlr | Inc. tax | tank-wag |
| Omaha | 17.4 | 15.9 | 5.0 | 10.4 |
| McCook | 18.1 | 14.3 | 5.0 | 11.1 |
| Norfolk | 17.8 | 16.3 | 5.0 | 10.8 |
| North Platte | 18.2 | 16.7 | 5.0 | 11.2 |
| Scotts Bluff | 18.9 | 17.4 | 5.0 | 10.9 |

Discounts to commercial consumers for tank-wagon deliveries covered only by standard commercial consumers contract, effective Jan. 1, 1935.

## Central South District

STANDARD OIL CO. OF LOUISIANA

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wag. dlr. | Tank car con'r. | Inc. tax | tank-wag. |
| N. Orleans, La. | 20.0 | 17.5 | *10.0 | †11.0 |
| Baton Rouge | 18.0 | 15.5 | 8.0 | 12.0 |
| Alexandria | 18.5 | 16.0 | 8.0 | 12.0 |
| Lafayette | 19.0 | 16.5 | 8.0 | 12.5 |
| Lake Charles | 19.0 | 16.5 | 8.0 | 12.5 |
| Shreveport | 17.5 | 15.0 | 8.0 | 11.0 |
| Knoxville, Tenn. | 21.0 | 18.5 | 8.0 | 14.0 |
| Memphis | 19.0 | 16.5 | 8.0 | 12.0 |
| Chattanooga | 20.5 | 18.0 | 8.0 | 13.5 |
| Nashville | 20.0 | 17.5 | 8.0 | 13.0 |
| Bristol | 19.75 | 18.5 | 8.0 | 14.5 |

*Includes 2-cent parish tax. †Includes 1 cent parish tax and 1 cent state tax.

Standard of La. has transferred all stations to dealers except in New Orleans and Baton Rouge where station prices are 23.5 and 21.5 cents per gallon, respectively.

Price basis to commercial consumers: effective Dec. 21, 1936, deliveries of 50 gallons or more in one delivery, posted consumer tankcar price plus 2 cents per gallon; consumers taking deliveries of less than 50 gallons at one time pay posted consumer tankcar price plus 6 cents per gallon.

Louisiana kerosene prices include 1-cent state tax.

## Naphtha

STANDARD OIL CO (INDIANA)

| | Tank-wagon* |
|---|---|
| Oleum spirits | 15.7 |
| V.M.&P. naphtha | 16.0 |
| Cleaners' naphtha | 15.0 |
| Stanisol | 15.0 |

*Prices include 3-cent Illinois tax, but not 1-cent federal tax or 2 per cent retail occupational tax.

Prices f.o.b. Chicago. Each price subject to discount of 1 cent per gallon for 150 gallon lots if covered by contract.

## Oklahoma and Arkansas

CONTINENTAL OIL CO.

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Dealer | Serv. sta. | Inc. tax | tank-wag. |
| Muskogee, Ok. | 15.5 | .... | 5.0 | 7.0 |
| Okla. City | 13.0 | .... | 5.0 | 8.0 |
| Tulsa | 14.0 | .... | 5.0 | 8.0 |
| Ft. Smith, Ark. | 15.0 | .... | 5.0 | 10.0 |
| Little Rock | 17.5 | .... | 7.5 | 9.5 |
| Texarkana | 15.0 | .... | 5.0 | 9.0 |

## Texas

| | Gasoline | | | Kero. |
|---|---|---|---|---|
| | Tank wag. | Serv. sta. | Inc. tax | tank-wag. |
| Dallas, Tex. | 14.0 | 18.0 | 5.0 | 8.0 |
| Fort Worth | 14.0 | 18.0 | 5.0 | 8.0 |
| Houston | 14.5 | 18.5 | 5.0 | 8.0 |
| San Antonio | 14.5 | 18.5 | 5.0 | 8.0 |

## Canada*

3 Star Imperial Gasoline
IMPERIAL OIL, LTD.

| | Gasoline | | | Kero |
|---|---|---|---|---|
| | Tank wag. | Serv. sta. | Inc. tax | tank wag. |
| Hamilton, Ont. | 22.0 | .... | 6.0 | 17.0 |
| Toronto, Ont. | 22.0 | 24.5 | 6.0 | 17.0 |
| Brandon, Man. | 29.8 | 32.8 | 7.0 | 23.8 |
| Winnipeg, Man. | 28.2 | 31.2 | 7.0 | 20.7 |
| Regina, Sask. | 29.5 | .... | 7.0 | 22.0 |
| Saskatoon, Sask. | 32.3 | .... | 7.0 | 24.8 |
| Edmonton, Alta. | 30.5 | 33.5 | 7.0 | 24.3 |
| Calgary, Alta. | 28.0 | 31.0 | 7.0 | 21.5 |
| Vancouver, B. C. | 22.0 | 26.0 | 7.0 | 23.0 |
| Montreal, Que. | 19.0 | .... | 6.0 | 17.8 |
| St. John, N. B. | 24.0 | 28.0 | 8.0 | 18.9 |
| Halifax, N. S. | 24.0 | 28.0 | 8.0 | 18.1 |

*Imperial gallon used in Canada.

Discount to dealers: Divided dealers pay 3 cents per gallon below station price; undivided dealers pay 4 cents per gallon below station price except in cities of Hamilton, Toronto and Montreal when discounts below station prices are one-half cent per gallon less and in Vancouver where discounts are 1 cent per gallon more.

## Retail Price Changes

Continental Oil Co. March 2 advanced tank-wagon kerosene 1 cent throughout Montana and reduced tank-wagon kerosene 1 cent in Tulsa.

Standard Oil Co. of Nebraska March 1 reduced tank-wagon and dealer gasoline 1 cent in Nebraska following a 1-cent reduction in the state gasoline tax.

## Exports and Imports

The Bureau of Foreign and Domestic Commerce has revised its export and import statistics, published as export statement 3103 and import statement 3151. It will have a greater breakdown of exports, and on the import statement entries into bond.

Statement No. 3151 which lists the imports of petroleum and petroleum products will hereafter give separate columns showing the quantities imported under these three headings: "For immediate consumption"; "Entering bonded warehouse"; and "Entering bond for manufacture and export." These figures will be given by countries of origin and by customs districts for crude, fuel oil including topped crude, and for gas oil including diesel oil and unfinished distillates. On other petroleum products these separate classifications will not be made but merely the total amount reported by countries and districts.

# PRICES OF REFINED PRODUCTS

All quotations f.o.b. plant in cars for interstate or export movement except as otherwise noted

Prices as of March 9, 1937

The following quotations are exclusive of the federal excise taxes of 1 cent a gallon on gasoline and 4 cents on lubricating oils.

## Refinery Gasoline

OKLAHOMA (Group 3)—

U. S. Motor grades:

| | | |
|---|---|---|
| 62 octane and below (3d gr.) | .04⅝ | .04⅞ |
| 63-67 octane | .05 | .05¼ |
| 68-70 octane (regular) | .05¾ | .05⅞ |
| 60-62 400 grades: | | |
| 62 octane and below (3d gr.) | .04⅝ | .04⅞ |
| 63-67 octane | .05 | .05¼ |
| 68-70 octane (regular) | .05¾ | .05⅞ |
| 64-66 375 | .05 | .05¼ |
| 68-70 360 | .05¼ | .05⅝ |

NORTH TEXAS—

U. S. Motor grades:

| | | |
|---|---|---|
| 62 octane and below | .04⅝ | .04⅞ |
| 63-67 octane | .05 | .05¼ |
| 68-70 octane (regular) | .05⅜ | .05¾ |
| 60-62 400 | .04⅝ | .04⅞ |
| 64-66 375 | .04⅞ | .05 |

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

U. S. Motor grades:

| | | |
|---|---|---|
| 62 octane and below | .05⅜ | .05½ |
| 63-67 octane | | .05¾ |
| 68-70 octane (regular) | | .06¼ |

ARKANSAS (Ark., N. La., Miss. del.)—

U. S. Motor grades:

| | | |
|---|---|---|
| 62 octane and below | .05¼ | .05½ |
| 63-67 octane | | .06 |
| 68-70 octane (regular) | .06¼ | .06⅜ |

CHICAGO (Based on Group 3)—

U. S. Motor grades:

| | | |
|---|---|---|
| 62 octane and below | .04⅝ | .04⅞ |
| 63-67 octane | .05 | .05¼ |
| 68-70 octane (regular) | .05⅜ | .05⅞ |
| 60-62 400 grades: | | |
| 62 octane and below | .04⅝ | .04⅞ |
| 63-67 octane | .05 | .05¼ |
| 68-70 octane (regular) | .05⅜ | .05⅞ |
| 64-66 375 | .05 | .05⅛ |
| 68-70 360 | .05¼ | .05⅝ |

PENNSYLVANIA (inland refineries)—

58-60 U. S. Motor:

| | | |
|---|---|---|
| Below 60 octane | .04⅞ | .05 |
| 60-64.9 octane | .06¾ | .07 |
| 65-70 octane | .07 | .07¼ |
| 64-66 375 | .05⅝ | .05½ |
| 68-70 350 | .05⅝ | .05¾ |

CALIFORNIA (domestic movement)—

| | | |
|---|---|---|
| 54-58 U. S. Motor | .07 | .08 |
| 58-60 400, 65 octane and higher | .07¾ | .08¾ |

EAST COAST (domestic)—

U. S. Motor below 60 octane:

| | | |
|---|---|---|
| *New York (Bayonne) | | .06⅜ |
| Baltimore | | .06⅝ |
| U. S. Motor, 60-64.9 octane: | | |
| *New York (Bayonne) | | .07 |
| Philadelphia | .07 | .07¼ |
| Boston | | .07¼ |
| Baltimore | .07 | .07¼ |
| Charleston, S. C. | | .07¼ |
| U. S. Motor, 65 and above: | | |
| *New York (Bayonne) | | .07¼ |
| Philadelphia | .07¼ | .07½ |
| Boston | | .07½ |
| Baltimore | .07¼ | .07½ |
| Charleston, S. C. | | .07½ |

*All grades of gasoline one-eighth to one-fourth cent less for barge shipments. New York harbor prices are for New York and New England delivery. Prices for New Jersey delivery one-fourth cent lower.

GULF COAST (domestic)—

U. S. Motor grades:

| | | |
|---|---|---|
| Below 60 octane | .05½ | .05⅝ |
| 60-64.9 | .05⅝ | .06 |
| 65 octane and higher | .06⅛ | .06⅝ |

## Naphtha

PENNSYLVANIA (inland refineries)—

| | | |
|---|---|---|
| 50-52 450 (blending) | .04¾ | .04⅞ |
| 52-54 450 (blending) | .04¾ | .04⅞ |
| 54-56 450 (blending) | .04⅞ | .05 |

## Natural Gasoline

OKLAHOMA (Group 3)—

| | | |
|---|---|---|
| Grade 26-70 | | .03 |
| Grade 18-55 | .03⅜ | .03¾ |
| Low vapor pressure grade: | | |
| *14-pound v.p. (max.) | .04⅛ | .04¼ |
| *12-pound v.p. (max.) | | .04¾ |

*Nominal.

NORTH TEXAS—

| | | |
|---|---|---|
| Grade 26-70 | | .02⅝ |
| Grade 18-55 | .03⅜ | .03½ |

CALIFORNIA—

| | | |
|---|---|---|
| 75-85 375-390 | .06¾ | .07½ |

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

| | | |
|---|---|---|
| Grade 26-70 | | .03⅜ |

## Tractor Fuel

OKLAHOMA (Group 3)—

| | | |
|---|---|---|
| 36-42 gr., 315-325 i.b.p., 110 flash, 540-550 e.p. | .04⅛ | .04¼ |
| 41-43 gr., 300-350 i.b.p., 110-125 flash, 500-520 e.p. | .04¼ | .04⅜ |
| 46-48 gr., 210-230 i.b.p., 480 max. e.p. | .04⅝ | .04⅞ |

## Kerosene

(All kerosene water white)

OKLAHOMA (Group 3)—

| | | |
|---|---|---|
| 41-43 | .04⅛ | .04¼ |
| 42-44 | .04¼ | .04½ |

NORTH TEXAS—

| | | |
|---|---|---|
| 41-43 | .04⅛ | .04¼ |

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

| | | |
|---|---|---|
| 41-43 | .04⅜ | .04½ |

ARKANSAS (Ark., N. La., Miss. del.)—

| | | |
|---|---|---|
| 41-43 | .04½ | .04¾ |

PENNSYLVANIA (inland refineries)—

| | | |
|---|---|---|
| 45 | | .05 |
| 46 | | .05⅛ |
| 47 | | .05¼ |

CHICAGO (Based on Group 3)—

| | | |
|---|---|---|
| 41-43 | .04⅛ | .04¼ |
| 42-44 | .04¼ | .04⅜ |

CALIFORNIA (Pac. Coast market)—

| | | |
|---|---|---|
| 38-43 high burning test | .04 | .05 |

NEW YORK (Bayonne, N. J.)—

| | | |
|---|---|---|
| 41-43 | | .05½ |

*GULF COAST (domestic)—

| | | |
|---|---|---|
| 41-43 | | .05⅝ |

*Barge price one-eighth cent lower.

## Furnace Oil

OKLAHOMA (Group 3)—

| | | |
|---|---|---|
| No. 1 prime white, 38-42 | .04 | .04⅛ |
| No. 1 straw, 38-40 | .03⅞ | .04 |
| No. 2 straw, 32-36 | .03½ | .03⅝ |
| No. 2 dark, 32-36 | .03⅜ | .03⅝ |
| No. 3, zero to 15, 28-32 | .03⅜ | .03⅝ |
| No. 3, 15 and above, 28-32 | .02⅝ | .02⅞ |

NORTH TEXAS—

| | | |
|---|---|---|
| No. 1 prime white, 38-42 | | .04 |
| No. 1 straw, 38-40 | | .03⅞ |

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

| | | |
|---|---|---|
| No. 2, 32-36 | .03½ | .03⅝ |

ARKANSAS (Ark., N. La., Miss. del.)—

| | | |
|---|---|---|
| No. 2, 32-36 | .03½ | .03⅝ |

CHICAGO (Based on Group 3)—

| | | |
|---|---|---|
| No. 1 prime white, 38-40 | .04 | .04⅛ |
| No. 1 straw, 38-40 | .03⅝ | .03⅞ |
| No. 2 straw, 32-36 | .03½ | .03¾ |
| No. 2 dark, 32-36 | .03⅜ | .03⅝ |
| No. 3 zero to 15, 28-32 | .03⅜ | .03⅝ |
| No. 3, 15 and above, 28-32 | .02⅝ | .02¾ |

NEW YORK (Bayonne, N. J.)—

| | | |
|---|---|---|
| *No. 1 | | .05⅝ |
| *No. 2 | | .05 |
| *No. 4 | | .04¾ |

*Barge deliveries one-eighth to one-fourth cent under above, tankcar price.

## Gas Oil and Fuel Oil

(Gas oil per gal.; fuel oil per bbl.)

OKLAHOMA (Group 3)—

| | | |
|---|---|---|
| U.G.I. gas oil | .02¾ | .02⅞ |
| No. 4, low cold test, 24-28 | 1.10 | 1.15 |
| No. 4, 15 and above, 24-28 | .90 | .95 |
| No. 5, low cold test, 18-22 | .87½ | .92½ |
| Below 18 fuel oil, industrial | .80 | .87½ |

NORTH TEXAS—

| | | |
|---|---|---|
| U.G.I. gas oil | .02¾ | .02⅞ |
| No. 4, low cold test, 24-28 | 1.10 | 1.15 |
| No. 5, low cold test, 18-22 | .87½ | .92½ |
| Below 18 fuel oil, industrial | .80 | .85 |

NORTH LOUISIANA (Ark., N. La. and Miss. delivery)—

| | | |
|---|---|---|
| 10-14 fuel oil, industrial | .77½ | .85 |

ARKANSAS (Ark., N. La. and Miss. delivery)—

| | | |
|---|---|---|
| 10-14 fuel oil, industrial | .70 | .72½ |

CHICAGO (Based on Group 3)—

| | | |
|---|---|---|
| U.G.I. gas oil | .02⅝ | .02⅞ |
| No. 4, low cold test, 24-28 | 1.10 | 1.15 |
| No. 4, 15 and above, 24-28 | .90 | .95 |
| No. 5, low cold test, 18-22 | .87½ | .92½ |
| No. 6, low cold test, 10-16 | .80 | .85 |

PENNSYLVANIA (inland refineries)—

| | | |
|---|---|---|
| 36-40 | .04⅝ | .04½ |

CALIFORNIA—

Los Angeles:

| | | |
|---|---|---|
| 30-34 gas oil, per bbl. | 1.05 | 1.25 |
| 24 plus diesel (bunkers) | 1.15 | 1.35 |
| 12-16 (bunkers at tidewater) | .90 | 1.00 |
| 10-16 (cargo lots) | .70 | .95 |
| 12-17 (tankers) | .75 | .95 |
| San Joaquin Valley: | | |
| 10-18 (tankcars) | .70 | .90 |
| 24 plus diesel, per bbl. | 1.00 | 1.35 |
| San Francisco: | | |
| 27 plus diesel | | 1.40 |
| 24 plus diesel (bunkers) | | 1.40 |
| 10-16 (bunkers) | | 1.00 |

GULF COAST—

| | | |
|---|---|---|
| 28-30 gas oil | .03½ | .03⅝ |
| 28-30 diesel (bunkers) | | 1.65 |
| Bunkers (bulk cargoes) | | .95 |
| Bunker C (bunkers) | | 1.00 |

NEW YORK (Bayonne, N. J.)—

| | | |
|---|---|---|
| 27 plus, gas oil | | .04¾ |
| 28-30 diesel (lighterage 6¼c per bbl.) | | 1.85 |
| 28-30 diesel (tankcars) | | .04¾ |
| *Bunker C (to ocean-going ships in N. Y. harbor) | | 1.15 |
| Industrial fuel (tankcars) | | .04½ |

*Lighterage charge 5c bbl. additional.

## Bright and Steam-Refined

OKLAHOMA (Group 3)—

Bright Stocks:

| | |
|---|---|
| 190-200 D, 15-25 | .22⅛ |
| 150-160 D, 0-10 | .19½ |
| 150-160 D, 15-25 | .19 |
| 150-160 E, 15-25 | .18½ |
| 100-110 D, 0-10 | .17½ |
| Steam refined: | |
| 631 green (treated) | .16 |
| 600 dark green (untreated) | .05 |

PENNSYLVANIA—

Bright Stocks (Pennsylvania Grade No. 8 color, 145-50 at 210, 540-550 flash):

| | |
|---|---|
| 10 pour test | .27 |
| 15 pour test | .26 |
| 20 pour test | .25 |
| 25 pour test | .24 |
| Steam refined: | |
| 600 | .16½ |
| 650 | .17½ |
| 600 Pennsylvania flash | .18½ |
| 630 flash | .20 |
| 600 Warren E filtered | .18½ |

## Neutral Oil

(Vis. at 100° F. except Pennsylvania and color N.G.A.)

OKLAHOMA (Group 3)—

Zero to 10 Cold Test:

| | |
|---|---|
| 150-3 | .09 |
| 180-3 | .10 |
| 180-4 | .09½ |
| 200-3 | .10½ |
| 200-4 | .10 |
| 250-3 | .11½ |
| 250-4 | .11 |
| 280-3 | .12½ |
| 280-4 | .12 |
| 300-3½ | .13 |
| 400-3½ | .14 |
| 100-2½ paraffin oil | .05¾ |
| 15-20 Cold Test: | |
| 200-3 | .10 |
| 200-4 | .09½ |
| 250-3 | .11 |
| 250-4 | .10½ |
| 280-3 | .12 |
| 280-4 | .11½ |

GULF COAST—

Pale Oils:

| | | |
|---|---|---|
| 200-3 | .07 | .07¼ |
| 300-3 | .07½ | .07¾ |
| 500-3½ | .08⅛ | .08⅜ |
| 750-3½ | .08⅝ | .09¼ |
| 1,200-3½ | .09½ | .09¾ |
| 1,500-4 | .09¾ | .10 |
| Red Oils: | | |
| 200-5-6 | | .07 |
| 300-5-6 | .07¼ | .07½ |
| 500-5-6 | .08 | .08½ |
| 750 | .08¾ | .09 |
| 1,200-5-6 | .09¼ | .09½ |

CALIFORNIA (moving to dom. market)

Pale Oils:

| | | |
|---|---|---|
| 100-2½-3 | .07 | .08 |
| 200-2½-3 | .07 | .08 |
| 300-2½-3 | .07 | .08 |
| 400-3-4 | .09 | .11 |
| 450-3-4 | .09 | .11 |
| 550-3-4 | .09 | .11 |
| 600-3-4 | .09 | .11 |

Red Oils:

| | | |
|---|---|---|
| 200-4-5 | .07 | .08 |
| 300-5-6 | .07 | .08 |
| 350-5-6 | .10½ | .11½ |
| 400-5-6 | .10½ | .11½ |
| 450-5-6 | .10½ | .11½ |
| 500-5-6 | .10½ | .11½ |
| 600-5-6½ | .10½ | .11½ |
| 700-6½ plus | .10½ | .11½ |
| 750-6½ plus | .10½ | .11½ |
| 900-6½ plus | .10½ | .11½ |

PENNSYLVANIA—

150 vis. at 750° F. color, 400-405 flash:

| | | |
|---|---|---|
| Zero pour test | .22½ | .23 |
| 10 pour test | .21½ | .22 |
| 15 pour test | .21 | .21½ |
| 25 pour test | .20 | .20½ |
| 180 vis. at 70° F., 3 color: | | |
| 25 pour test | .22½ | .23 |
| 200 vis. at 70° F., 3 color: | | |
| Zero pour test | .26 | .26½ |
| 10 pour test | .25 | .25½ |
| 15 pour test | .24½ | .25 |
| 25 pour test | .23½ | .24 |

## Wax and Petrolatum

(Prices per pound)

OKLAHOMA (Group 3)—

| | | |
|---|---|---|
| 124-126 (a.m.p.) w.c. scale | .02⅝ | .02¾ |

PENNSYLVANIA (inland refineries)—

| | | |
|---|---|---|
| 122-124 (a.m.p.) w.c. scale | .0265 | .0270 |
| 124-126 (a.m.p.) w.c. scale | .0270 | .0275 |

NEW YORK—

Wax in bags fully refined:

| | | |
|---|---|---|
| 122-125 (a.m.p.) wax | | .0445 |
| 125-127 (a.m.p.) wax | | .0455 |
| 128-130 (a.m.p.) wax | | .0480 |
| 130-132 (a.m.p.) wax | | .0505 |
| 133-135 (a.m.p.) wax | | .0535 |
| 135-137 (a.m.p.) wax | | .0560 |
| 124-126 (a.m.p.) w.s. | .0250 | .0255 |
| 124-126 (a.m.p.) y.s. | .0260 | .0265 |
| Petrolatum in barrels, carload lots: | | |
| Dark green | | .01⅞ |
| Amber | .02⅞ | .03 |
| Extra amber | .03 | .03⅛ |
| Lily white | .06⅝ | .06¾ |
| Snow white | .07¾ | .07⅞ |
| Cream | .05⅝ | .05¾ |

## Export Prices

### GASOLINE

GULF COAST—

| | | |
|---|---|---|
| U. S. Motor | | .05½ |
| 60-62 400 | | .05⅝ |
| 61-63 390 | .05⅝ | .05¾ |
| 64-66 375 | .05⅞ | .06 |

LOS ANGELES—

U. S. Motor grades:

| | | |
|---|---|---|
| 53-55 octane | | .04¾ |
| 55-65 octane | .04¾ | .05 |
| 65-67 octane | | .05 |
| 67-69 octane | | .05½ |
| Above 69 octane | .05½ | .06 |

### KEROSENE

GULF COAST—

| | | |
|---|---|---|
| 41-43 prime white | .05 | .05¼ |
| 41-43 water white | .05½ | .05⅝ |
| 44 water white | .05⅝ | .05¾ |

LOS ANGELES—

| | | |
|---|---|---|
| 41-43 water white | .04½ | .05 |

### LUBRICANTS

(Pennsylvania Grade)

NEW YORK (f.a.s. in bbls.)—

Cylinder Stocks:

| | |
|---|---|
| 600 Warren E | .24½ |
| 600 S.R. unfiltered | .22 |
| 650 S.R. unfiltered | .23½ |
| 600 flash, S.R. | .24½ |
| 630 flash S.R. | .25½ |
| Bright Stocks: | |
| 8 color | .29½ .30 |
| 6½ plus color in dilution | .29 .29½ |

### NEUTRAL OIL

| | |
|---|---|
| 200-3 color | .29½ |
| 150-3 color | .26½ |

### PARAFFIN WAX

NEW YORK (prices per pound)—

| | |
|---|---|
| 123-125 a.m.p. | .04125 |
| 125-127 a.m.p. | .0425 |
| 128-130 a.m.p. | .0450 |
| 133-135 a.m.p. | .0525 |
| 135-137 a.m.p. | .0550 |
| Crude scale: | |
| 124-126 w.s. | .0260 .0270 |
| 124-126 y.s. | .0245 .0250 |

# CRUDE OIL PRICES

## Oklahoma, Kansas, North Central and East Central Texas

(January 28, 1937)

| | |
|---|---|
| East Texas* | $1.27 |
| Van, Tex.† | 1.10 |
| Camp Hill, Tex. | 1.27 |
| Cass County, Tex.‡ | 1.25 |
| Talco | .73 |
| Altus and Tipton, Okla.§ | 1.20 |
| Other fields (see gravity table). | |

*All companies. †Humble Oil & Refining Co.; Pure Oil Co. ‡Texas Co. §Gulf Oil Co. Talco by Humble Oil & Refining Co.

## West Texas

See gravity table.

| | |
|---|---|
| Pecos County* | .91 |
| Pecos shallow† | .81 |

*Shell Petroleum Co., Gulf Pipe Line Co., and Humble Oil & Refining Co. †Shell Petroleum Corp.

## Gulf Coast

(January 28, 1937)

| | |
|---|---|
| Choctaw and Darrow, La....See note below | |
| Clay Creek, Tex. | $1 00 |
| Garden Island, La. | 1 37 |
| Cleveland, Tex. | 1.27 |
| Hardin, Tex. | 1.15 |
| Tomball, Tex. | 1.30 |
| Lafitte, La. | 1.24 |
| Livingston, Tex. | 1.27 |
| Batsuma | 1.20 |
| Heyser, light (Nov. 1, 1936) | 1.15 |
| Heyser, heavy (Nov. 1, 1936) | .90 |
| Placedo (Nov. 1, 1936) | .90 |
| Welsh, La. | .98 |
| Tepetate (La.) (Jan. 4, 1937) | 1.12 |

Greta, Refugio, O'Connor, McFadden, Saxet, Segno, Taft, Tom O'Connor and Plymouth take same gravity prices as Gulf Coast. Duval, Jim Hogg, Webb and Zapata counties, Texas, and Heyser and Placedo fields take Mirando gravity prices. Jennings, La., 5 cents lower than Gulf Coast prices on each degree. Segno, Texas, takes Gulf Refining Co.'s Gulf Coast prices. Choctaw and Darrow, Louisiana, posted for first time by Standard Oil Co. of Louisiana, start below 21 degrees at 90 cents, with 3-cent differential up to 25 gravity, then 2-cent differential up to 40 and above, $1.36.

## Rocky Mountain States

(Effective January 28, 1937)

| | |
|---|---|
| Iles, Colo., light* | $1.18 |
| Iles, Colo., heavy* | 1.12 |
| Greybull, Wyo.* | 1.30 |
| Torchlight, Wyo.* | 1.30 |
| Grass Creek, Wyo., light*† | 1.30 |
| Grass Creek, Wyo., heavy (Nov. 4, 1936)*† | .62 |
| Hamilton Dome, Wyo. (Nov. 4, 1936)* | .57 |
| Elk Basin, Wyo., light*† | 1.30 |
| Frannie, Wyo., heavy* | .62 |
| Frannie, Wyo., light | .82 |
| Hogback, N. Mex.*.. | 1.33 |
| Pondera, Mont. (Jan. 26, 1936)* | 1.05 |
| Salt Creek, Dutton Creek and Midway, Wyo., take Stanolind's Oklahoma prices on a gravity basis. | |
| Big Muddy, Wyo.† | 1 23 |
| Rock Creek, Wyo.† | 1.29½ |
| Lea County, N. M. (see West Texas gravity table). | |
| Artesia, N. Mex. | .90 |
| Maljamar, N. Mex. | .90 |
| Canon City and Florence, Colo. | 1 10 |
| Florence, Colo. | .98 |
| Lance Creek, Wyo. | .97 |
| Sunburst, Mont. (June 5, 1936) | 1.20 |
| Cat Creek, Mont. | 1.40 |
| Cut Bank, Mont. | 1.35 |

*Stanolind Oil & Gas Co. †Ohio Oil Co. ‡Continental Oil Co. Cut Bank by Toronto Pipe Line Co.

## Middle Western States

OHIO OIL CO.
(Effective January 28, 1937)

| | |
|---|---|
| Lima | 1.25 |
| Illinois | 1.35 |
| Princeton, Ind. | 1.35 |
| Midland, Mich. | 1.42 |
| West Branch, Mich. | 1.26 |
| Arenac, Mich. | 1.26 |
| Muskegon, Mich. | 1.00 |
| Eastern Kentucky: | |
| Big Sandy River | 1.42 |
| Kentucky River | 1.50 |
| Western Kentucky | 1.40 |

Midland, Mich., price posted by Simrall Corp. and Pure Oil Co. includes Greendale, Porter, Beaverton, Crystal and equal grades. West Branch and Arenac by Simrall Corp., effective Jan. 29. Eastern Kentucky crude purchased by Ashland Refining Co., Ashland, Ky.

## Southwest Texas

(January 28, 1937)

| | |
|---|---|
| Pettus | 1.37 |
| Salt Flat, Darst Creek, Hilbig, Carroll, Clark, Zoboroski | 1.09 |
| Luling | 1.00 |
| Lytton Springs | 1.12 |

Saxet and Taft take same gravity table as Gulf Coast.

## North Louisiana and Arkansas

| | |
|---|---|
| Smackover, all grades | $ .90 |
| Tullos and Urania | 1.02 |
| El Dorado East field | .90 |
| Union County, Ark. | .90 |
| Ouachita County, Ark. | .90 |

## Eastern States

TIDE WATER PIPE LINE CO.
(Effective Feb. 24, 1937)

| | |
|---|---|
| Bradford, Pa. | $2.67 |
| Allegany, N. Y. | 2.67 |

SOUTH PENN OIL CO.
(Effective Feb. 24, 1937)

| | |
|---|---|
| Pennsylvania Grade Oil in National Transit Lines (Bradford field) | 2.67 |
| Pennsylvania Grade Oil in Southwest Pennsylvania Lines | 2.42 |
| Pennsylvania Grade Oil in Eureka Pipe Line lines | 2.37 |
| Pennsylvania Grade Oil in Buckeye Pipe Line lines | 2.22 |
| Corning Grade Oil in Buckeye Pipe Line Co.'s lines (Sept. 18, 1936).. | 1.32 |

PENNZOIL CO.
(Effective Feb. 24, 1937)

| | |
|---|---|
| Pennsylvania Grade Oil in National Transit Lines: | |
| Group A | 2.67 |
| Includes Cochran, Franklin, Hamilton and Doolittle districts. | |
| Group B | 2.66 |
| Includes Tidioute district. | |
| Group C | 2.65 |
| Includes Turkey and Tidioute districts. | |
| Group D | 2.64 |
| Includes Bear Creek and Porkey districts. | |
| Group E | 2.61 |
| Includes Eldeneau, Bull Creek, Rough Run, Carbon, Dipner, Bredlin, McJunkin, Jameson, Kenerdell, Emlenton, Tiona, Lacey and Kinzua districts. | |

Price depends on lengths of pipe line haul to plant at Oil City.

PURE OIL CO.
(Effective Feb. 24, 1937)

| | |
|---|---|
| Cabin Creek, W. Va. | 2.37 |
| Bradford Hollow, W. Va. | 2.37 |
| Kelly Creek, W. Va. | 2.37 |

## Canada

| | |
|---|---|
| Ontario (Sept. 9, 1933)* | |
| Petrolia | $2.10 |
| Oil Springs | 2.17 |
| Turner Valley, Alberta province (Dec. 16, 1936):† | |
| Clear naphtha | $2.60 |
| Discolored naphtha, 65 gravity and higher | 2.36 |
| Discolored naphtha and crude oil, 40-40.9 gravity | 1.85 |
| Increasing 3 cents for each degree of gravity with top price for 64-64.9 gravity | 2.37 |

These prices delivered field tankage.
*Imperial Oil, Ltd.
†Imperial Oil, Ltd., and Regal Oil & Refining Co. On crude oil alone British American Oil Co. posted above prices on December 9, 1936.

## Mexico

| | |
|---|---|
| Panuco* | $1.07 |

*In U. S. Currency, f.o.b. ship, based on January spot market transactions.

## Fuller's Earth

Fuller's earth operations in the United States in 1935 employed 783 wage earners and paid wages totalling $497,757, according to a report of the Department of Commerce in cooperation with the Bureau of Mines. About 65 per cent of the industry is centralized in Florida and Georgia. The total value of products of the fuller's earth industry in 1935 was $2,236,759. These data cover only natural bleaching or filtering clay-like materials that have high absorptive capacity without previous chemical treatment for activation.

## Rocky Mountain Runs

Estimated daily average production for week ending March 6, follows:

### WYOMING

| | Bbls. |
|---|---|
| Salt Creek | 15,850 |
| Big Muddy | 1,400 |
| Byron | 2,260 |
| Frannie | 2,080 |
| Garland | 2,780 |
| Grass Creek | 2,100 |
| LaBarge | 1,150 |
| Lance Creek | 11,870 |
| Lost Soldier | 1,010 |
| Medicine Bow | 2,430 |
| Oregon Basin | 2,560 |
| Quealy dome | 650 |
| Rock River | 1,940 |
| Miscellaneous | 2,810 |
| Total Wyoming | 51,510 |

### MONTANA

| | |
|---|---|
| Buckley Border | 170 |
| Cat Creek | 590 |
| Cut Bank | 9,600 |
| Kevin-Sunburst | 4,000 |
| Lake Basin | 40 |
| Pondera | 1,300 |
| Total Montana | 15,700 |

### COLORADO

| | |
|---|---|
| Florence | 180 |
| Fort Collins and Wellington | 260 |
| Iles dome | 3,290 |
| Moffat | 440 |
| Orchard | 20 |
| Rangely | 70 |
| Tow Creek | 130 |
| Total Colorado | 4,390 |

### NEW MEXICO

| | |
|---|---|
| Cooper | 7,390 |
| Eaves | 890 |
| Eunice | 30,540 |
| Hardy | 960 |
| Hobbs | 22,390 |
| Jal | 1,800 |
| Langley | 1,190 |
| Lynch | 920 |
| Lynn | 190 |
| Mattix | 880 |
| Monument | 27,460 |
| Penrose | 1,830 |
| Skelly | 1,020 |
| South Eunice | 1,010 |
| Vacuum | 90 |
| Artesia-Maljamar | 3,070 |
| Getty | 500 |
| Hogback | 200 |
| Rattlesnake | 840 |
| Table Mesa | 90 |
| Total New Mexico | 103,250 |
| Total Rocky Mountain region | 174,850 |

# Crude Prices by Gravities

| | 1 Oklahoma-Kansas | 2 Oklahoma-Kansas | 3 North and Central Texas | 4 East Central Texas (Mexia district) | 5 North Louisiana-Arkansas | 6 Gray County, Texas | 7 Hutchinson-Carson counties, Texas | 8 Rodessa, Louisiana-Texas and Panola County, Texas | 9 Conroe, Tomball, Raccoon Bend, Satsuma, Texas | 10 Gulf Coast | 11 Gulf Coast | 12 West Texas except Pecos County, Lea County, N. Mex. | 13 Mirando district, Texas | 14 Marion County, Texas | 15 Government Wells, Texas | 16 Anahuac, Texas | 17 White Castle, Louisiana | 18 Iowa, Louisiana | 19 Cayuga, Texas |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Below 18 | .... | .... | .... | .... | .... | .... | .... | .... | .... | $.90 | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 18-18.9 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .92 | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 19-19.9 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .94 | .... | .... | .... | .... | .... | $.92 | $.94 | $.84 | .... |
| 20-20.9 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .96 | $.95 | .... | $.90 | .... | $.90 | .94 | .96 | .86 | .... |
| 21-21.9 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .98 | .98 | .... | .93 | .... | .93 | .96 | .98 | .88 | .... |
| 22-22.9 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1.01 | 1.01 | .... | .96 | .... | .96 | .98 | 1.01 | .91 | .... |
| 23-23.9 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1.04 | 1.04 | .... | .99 | .... | .99 | 1.00 | 1.04 | .94 | .... |
| 24-24.9 | .... | .... | .... | .... | .... | .... | .... | .... | .... | 1.07 | 1.07 | .... | 1.02 | .... | 1.02 | 1.02 | 1.07 | .97 | .... |
| Below 25 | .... | $.98 | .... | .... | $.90 | .... | .... | $.93 | .... | .... | .... | .... | .... | $.90 | .... | .... | .... | .... | $.88 |
| 25-25.9 | .... | 1.00 | .... | .... | .92 | .... | .... | .95 | .... | 1.10 | 1.10 | $.78 | 1.05 | .92 | .... | 1.04 | 1.10 | .99 | .90 |
| 26-26.9 | .... | 1.02 | .... | .... | .94 | .... | .... | .97 | .... | 1.13 | 1.13 | .80 | 1.08 | .94 | .... | 1.06 | 1.13 | 1.03 | .92 |
| 27-27.9 | .... | 1.04 | .... | .... | .96 | .... | .... | .99 | .... | 1.15 | 1.15 | .82 | 1.10 | .96 | .... | 1.08 | 1.15 | 1.05 | .94 |
| 28-28.9 | .... | 1.06 | .... | .... | .98 | .... | .... | 1.01 | .... | 1.17 | 1.17 | .84 | 1.12 | .98 | .... | 1.10 | 1.17 | 1.07 | .96 |
| Below 29 | $1.06 | .... | $.96 | $1.03 | .... | .... | .... | .... | $1.20 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 29-29.9 | 1.08 | 1.08 | .98 | 1.05 | 1.00 | .... | .... | 1.03 | 1.22 | 1.19 | 1.19 | .86 | 1.14 | 1.00 | .... | 1.12 | 1.19 | 1.09 | .98 |
| 30-30.9 | 1.10 | 1.10 | 1.00 | 1.07 | 1.02 | .... | .... | 1.05 | 1.24 | 1.21 | 1.21 | .88 | 1.16 | 1.02 | .... | 1.14 | 1.21 | 1.11 | 1.00 |
| 31-31.9 | 1.12 | 1.12 | 1.02 | 1.09 | 1.04 | .... | .... | 1.07 | 1.26 | 1.23 | 1.23 | .90 | 1.18 | 1.04 | .... | 1.16 | 1.23 | 1.13 | 1.02 |
| 32-32.9 | 1.14 | 1.14 | 1.04 | 1.11 | 1.06 | .... | .... | 1.09 | 1.28 | 1.25 | 1.25 | .92 | 1.20 | 1.06 | .... | 1.18 | 1.25 | 1.15 | 1.04 |
| 33-33.9 | 1.16 | 1.16 | 1.06 | 1.13 | 1.08 | .... | .... | 1.11 | 1.30 | 1.27 | 1.27 | .94 | 1.22 | 1.08 | .... | 1.20 | 1.27 | 1.17 | 1.06 |
| 34-34.9 | 1.18 | 1.18 | 1.08 | 1.15 | 1.10 | .... | .... | 1.13 | 1.32 | 1.29 | 1.29 | .96 | 1.24 | 1.10 | .... | 1.22 | 1.29 | 1.19 | 1.08 |
| Below 35 | .... | .... | .... | .... | .... | $.96 | $.91 | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... | .... |
| 35-35.9 | 1.20 | 1.20 | 1.10 | 1.17 | 1.12 | .98 | .93 | 1.15 | 1.34 | .... | 1.31 | .98 | 1.26 | 1.12 | .... | 1.24 | .... | 1.10 | .... |
| 36-36.9 | 1.22 | 1.22 | 1.12 | 1.19 | 1.14 | 1.00 | .95 | 1.17 | 1.36 | .... | 1.33 | 1.00 | 1.28 | 1.14 | .... | 1.26 | .... | .... | .... |
| 37-37.9 | 1.24 | 1.24 | 1.14 | 1.21 | 1.16 | 1.02 | .97 | 1.19 | 1.38 | .... | 1.35 | 1.02 | 1.30 | 1.16 | .... | 1.28 | .... | .... | .... |
| 38-38.9 | 1.26 | 1.26 | 1.16 | 1.23 | 1.18 | 1.04 | .99 | 1.21 | 1.40 | .... | 1.37 | 1.04 | 1.32 | 1.18 | .... | 1.30 | .... | .... | .... |
| 39-39.9 | 1.28 | 1.28 | 1.18 | 1.25 | 1.20 | 1.06 | 1.01 | 1.23 | 1.42 | .... | 1.39 | 1.06 | 1.34 | 1.20 | .... | 1.32 | .... | .... | .... |
| 40 and over | 1.30 | 1.30 | 1.20 | 1.27 | 1.22 | 1.08 | 1.03 | 1.25 | 1.44 | .... | 1.41 | 1.08 | 1.36 | 1.22 | .... | 1.34 | .... | .... | .... |

Column 1—Companies posting are Barnsdall, Bell, Champlin, Continental, Cushing, Derby, Dickey, Eason, El Dorado, Empire, Falcon, Globe, Gulf, Johnson, Kanotex, National, Phillips, White Eagle, Stanolind, Sunray, Texas, Sun, Vickers and Wilcox.
Column 2—Anderson & Prichard, Carter, Cosco, Deep Rock, Magnolia, Mid-Continent, Pure, Rock Island, Shell, Sinclair, Skelly and Tide Water.
Column 3—All purchasers.
Column 4—Humble Oil & Refining Co. and Sinclair Crude Oil Purchasing Co.
Columns 5, 6, 7 and 8—All purchasers.
Column 9—Humble Oil & Refining Co. and Sun Oil Co. Tide Water Oil Co.'s schedule starts at 35 degrees, $1.34 with 2-cent spread up to 40 and over at $1.44. (Raccoon Bend prices are for deep sand oil.)
Column 10—The Texas Co. (Gulf Refining Co. pays same prices up to and including 34 gravity, but continues its 2-cent spread up to 40 and over at $1.41.)
Column 11—Humble Oil & Refining Co., Sinclair Prairie Oil Marketing Co., Sun Oil Co.
Column 12—All purchasers.
Column 13—Humble Oil & Refining Co.
Column 14—Magnolia Petroleum Co.
Column 15—Sun Oil Co.
Column 16—Gulf Refining Co.
Column 17 and 18—Shell Petroleum Corp.
Column 19—Tide Water Oil Co.

# MARKET RECORD, ACTIVE OIL STOCKS

Compiled by Carl H. Pforzheimer & Co., 25 Broad Street, New York City, Members New York Stock Exchange and New York Curb Exchange

## New York Stock Exchange

| 1937 High | 1937 Low | Week ended Mar. 6 Sales | Week ended Mar. 6 High | Week ended Mar. 6 Low | Week ended Mar. 6 Close | Stocks— | Total shares outstanding | Par value | Latest dividend | Payable or last paid | Dividends paid in 1936 | 1936 High | 1936 Low | 1935 High | 1935 Low |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 114 | 101 | 1,800 | 111 | 109 | 110¼ | Amerada Corp. | 788,675 | N.P. | 50cQ | 1-30-37 | $2.00 | 125½ | 75 | 80 | 48½ |
| 35⅞ | 30⅛ | 13,200 | 34¼ | 33¼ | 33⅝ | Atlantic Refining | 2,664,904 | $25 | 25cQ | 3-15-37 | 1.25 | 35⅛ | 26⅝ | 28 | 20½ |
| 42½ | 35⅞ | 16,700 | 41⅜ | 39¼ | 40 | Barber Co. | 387,149 | $10 | 50c | 12-10-36 | .50 | 38½ | 21 | 22½ | 11¾ |
| 35¼ | 26⅛ | 31,600 | 31 | 29⅝ | 30¾ | Barnsdall Oil Co. | 2,131,090 | $5 | 25cQ | 2-1-37 | .80 | 28¼ | 14⅛ | 14¾ | 5⅞ |
| 20⅞ | 17 | 67,400 | 18 | 17 | 17¼ | Columbia Gas & Elec. | 11,610,036 | N.P. | 20c | 11-16-36 | .40 | 23⅜ | 14 | 15¾ | 3⅜ |
| 17¼ | 15⅜ | 55,800 | 16⅜ | 15⅞ | 16⅜ | Consolidated Oil Corp. | 13,983,287 | N.P. | 20cQ | 2-15-37 | .80 | 17¼ | 11½ | 12¼ | 6½ |
| 45⅜ | 40¼ | 32,300 | 42 | 40¼ | 41⅜ | Continental Oil of Delaware | 4,682,671 | $5 | 25cQ | 3-29-37 | 1.50 | 44⅞ | 28⅛ | 35 | 15⅛ |
| 17⅝ | 12½ | 25,500 | 15¾ | 14⅝ | 14¾ | Houston Oil (new) | 1,098,618 | $25 | .... | 10-17-30 | .... | 13⅞ | 6⅜ | 7 | 1½ |
| 34 | 29¼ | 32,700 | 34 | 31 | 34 | Mid-Continent Petroleum | 1,843,872 | $10 | 75cSA | 12-1-36 | 1.15 | 30⅞ | 17¼ | 20½ | 9½ |
| 31 | 26⅞ | 9,200 | 31 | 27⅜ | 30½ | Mission Corporation | 1,399,345 | N.P. | .... | ..... | .45 | 29⅞ | 16⅜ | 17⅜ | 10⅜ |
| 71½ | 62 | 6,700 | 73½ | 66¾ | 73½ | National Supply of Delaware | 382,591 | $25 | .... | 5-15-31 | .... | 75½ | 19⅞ | 20⅞ | 9 |
| 19½ | 17⅛ | 23,800 | 18⅝ | 17⅞ | 18¼ | Ohio Oil Co. | 6,563,377 | N.P. | 35cSA | 12-15-36 | .60 | 18 | 12⅛ | 14¼ | 9¼ |
| 28½ | 22¼ | 7,800 | 28½ | 25⅜ | 28¼ | Pacific Western Oil | 1,000,000 | N.P. | 65c | 12-18-36 | .65 | 23½ | 11¾ | 14 | 6¾ |
| 4½ | 2¾ | 8,600 | 4 | 3⅛ | 3½ | Panhandle P. & R. | 198,770 | N.P. | .... | ..... | .... | 4¼ | 1⅜ | 1⅞ | ½ |
| 57½ | 49½ | 15,500 | 55¾ | 52¾ | 55½ | Phillips Petroleum | 4,152,836 | N.P. | 50cQ | 3-1-37 | 2.50 | 52⅝ | 38⅛ | 40 | 13¾ |
| 27⅛ | 24⅝ | 7,600 | 27⅝ | 25 | 25⅞ | Plymouth Oil Co. | 1,050,000 | $5 | 35cQ¶ | 3-31-37 | .90 | 27¾ | 11⅞ | 13 | 6½ |
| 24⅜ | 19½ | 116,900 | 22½ | 20 | 22⅜ | Pure Oil Co. | 3,038,370 | N.P. | ... | 9-1-30 | .... | 24⅞ | 16 | 17 | 5⅞ |
| 47¼ | 40¼ | 6,500 | 44½ | 42¾ | 44½ | Seaboard Oil of Delaware | 1,244,283 | N.P. | 25cQ | 3-15-37 | 1.00 | 44 | 30½ | 36⅞ | 20¾ |
| 34¾ | 26⅞ | 10,900 | 33⅞ | 33 | 33⅝ | Shell Union Oil | 13,070,625 | N.P. | 25c | 12-15-36 | .25 | 28¼ | 14¾ | 16½ | 5½ |
| 105⅜ | 102¼ | 900 | 104½ | 103½ | 104½ | Shell Union Oil 5½% pfd. | 400,000 | $100 | 26⅛c | 12-15-36 | 28.87½ | 127½ | 102 | 111 | 63⅛ |
| 4⅛ | 3½ | 1,100 | 3⅞ | 3¾ | 3¾ | Simms Petroleum | 461,698 | $10 | 50c liq. | 1-9-37 | 2.25 liq. | 6¾ | 3½ | 18¾ | 4¾ |
| 47 | 42 | 17,300 | 48½ | 43 | 48⅛ | Skelly Oil | 1,008,514 | $15 | .... | 12-15-30 | .... | 47⅜ | 19½ | 20½ | 6½ |
| 19½ | 16¼ | 126,200 | 19¼ | 18⅞ | 19¼ | Socony-Vacuum | 31,151,075 | $15 | 25cSA | 3-15-37 | .70 | 17½ | 12½ | 15¾ | 10⅝ |
| 50 | 43¼ | 27,600 | 48⅜ | 46¾ | 47⅞ | Standard Oil of California | 13,014,754 | N.P. | 30cQ¶ | 3-15-37 | 1.20 | 47⅝ | 35 | 41⅛ | 27¾ |
| 50 | 46½ | 11,000 | 48¼ | 47 | 48 | Standard Oil (Indiana) | 15,215,677 | $25 | 40cQ¶ | 3-15-37 | 2.40 | 48½ | 32¾ | 33⅜ | 23 |
| 32 | 31 | 800 | 31½ | 31 | 31¼ | Standard Oil of Kansas | 200,000 | $10 | $1 | 12-26-36 | 1.00 | 31 | 25 | 32 | 20 |
| 75¾ | 67¾ | 75,700 | 75¼ | 72 | 74⅝ | Standard Oil of New Jersey | 25,856,081 | $25 | $1.25SA¶ | 12-15-36 | 2.00 | 70⅜ | 51⅛ | 52⅜ | 35¾ |
| 77½ | 72⅞ | 1,000 | 73¼ | 71 | 71½ | Sun Oil | 1,733,013 | N.P. | 25cQ | 3-15-37 | $1 & 6% Stk. | 91 | 70 | 77 | 60½ |
| 59⅜ | 50⅜ | 158,100 | 55¾ | 51⅜ | 55¾ | Texas Corp. | 9,340,069 | $25 | 50cQ | 4-1-37 | 1.50 | 55¼ | 28⅞ | 30¼ | 16½ |
| 9¼ | 7⅞ | 17,200 | 8½ | 8⅛ | 8⅛ | Texas Gulf Producing Co. | 888,110 | N.P. | 5c | 12-15-36 | .05 | 8⅞ | 4⅜ | 4¾ | 2½ |
| 16⅝ | 13⅛ | 13,800 | 15¼ | 14½ | 15 | Texas Pacific Coal & Oil | 880,703 | $10 | 10c | 3-1-37 | .25 | 15¼ | 7½ | 9¼ | 3¼ |
| 21⅝ | 20¼ | 42,000 | 21⅜ | 20¼ | 20⅞ | Tide Water Associated | 5,642,342 | N.P. | 15cQ | 3-1-37 | .70 | 21¾ | 14¾ | 15⅞ | 7⅝ |
| 108 | 105¼ | 2,700 | 106⅛ | 106⅛ | 106⅛ | Tide Water Associated pfd. | 626,221 | $100 | $1.50Q | 1-2-37 | 6.00 | 106½ | 100⅝ | 104½ | 84 |
| 28¼ | 24⅞ | 24,000 | 27 | 25 | 26½ | Union Oil of California | 4,386,070 | $25 | 25cQ | 11-10-36 | 1.00 | 28½ | 20¾ | 24 | 14¾ |
| 31½ | 26⅝ | 4,300 | 30½ | 28¾ | 28⅞ | Union Tank Car Co. | 1,200,000 | N.P. | 40cQ | 3-1-37 | 1.20 | 31⅝ | 22⅝ | 26½ | 20⅞ |
| 6¼ | 4½ | 11,000 | 6⅛ | 5¼ | 5⅞ | Wilcox Oil & Gas | 424,839 | $5 | .... | 5-10-28 | .... | 5¼ | 2¾ | 3⅛ | 1 |

*Ex-dividend. †Plus extras ‡Also 50 per cent in stock of Barnsdall Ref. §Partly on account of accumulation. ‖Dividend 4/75 Mission Corp. paid 3-15-35. ¶Includes extras. **Plus 6% stock.

## New York Curb Exchange

| 1937 High | 1937 Low | Week ended Mar. 6 Sales | Week ended Mar. 6 High | Week ended Mar. 6 Low | Week ended Mar. 6 Close | Stocks— | Total shares outstanding | Par value | Latest dividend | Payable or last paid | Dividends paid in 1936 | 1936 High | 1936 Low | 1935 High | 1935 Low |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 21⅜ | 17⅛ | 3,100 | 18⅞ | 17⅞ | 18½ | Bridgeport Machine Co. | 260,000 | N.P. | $1 | 12-21-36 | $1.00 | 21 | 13¼ | 14⅛ | 3¾ |
| 51½ | 46 | 400 | 51¼ | 48 | 48 | Buckeye Pipe Line Co. | 200,000 | $50 | $1Q | 3-15-37 | 3.25 | 50 | 39¾ | 42½ | 30½ |
| 2¾ | 2⅛ | 4,000 | 2¼ | 2⅛ | 2¼ | Carib Syndicate | 799,020 | 25c | .... | ..... | .... | 4⅞ | 1⅞ | 4¼ | 1⅝ |
| 115 | 110¼ | 150 | 113 | 113 | 113 | Chesebrough Mfg. Co. | 120,000 | $25 | $1.50Q† | 3-29-37 | 7.00 | 124¾ | 105 | 157 | 115 |
| 5⅜ | 4⅛ | 81,000 | 4⅜ | 4⅛ | 4¼ | Cities Service | 37,804,394 | N.P. | .... | 6-1-32 | .... | 7⅜ | 3 | 3¼ | ¾ |
| 4⅝ | 2⅝ | 32,200 | 3¾ | 2⅝ | 3 | Cosden Oil | 399,687 | $1 | .... | ..... | .... | 4½ | 1½ | 1½ | ¼ |
| 38 | 31⅞ | 6,600 | 34½ | 32⅝ | 32⅝ | Creole Petroleum | 6,974,356 | $5 | 25cSA | 12-15-36 | .50 | 39 | 19⅞ | 23¾ | 10 |
| 18⅝ | 16 | 900 | 17 | 16¼ | 17 | Darby Petroleum | 351,390 | $5 | 25cSA | 1-15-37 | .50 | 18⅛ | 9 | 8⅞ | 4 |
| 7⅞ | 5¼ | 1,500 | 6¾ | 6¼ | 6⅝ | Derby Oil & Refining | 263,162 | N.P. | .... | ..... | .... | 6¾ | 1⅞ | 2 | ¾ |
| 47¼ | 46½ | No sales | .. | .. | .. | Eureka Pipe Line | 50,000 | $50 | $1Q | 11-2-36 | 4.00 | 47½ | 38½ | 38 | 33¼ |
| 63½ | 56 | 13,300 | 60⅜ | 57¼ | 59 | Gulf Oil Corp. | 9,076,202 | $25 | 25cQ | 4-1-37 | 1.50, 100% Stk. | 59 | 36 | 74¾ | 50¼ |
| 87 | 77½ | 5,800 | 83⅞ | 82½ | 82½ | Humble Oil & Refining | 8,923,935 | N.P. | 37½cQ | 4-1-37 | 1.50 | 80 | 57 | 64 | 44 |
| 24¼ | 21 | 12,600 | 24¼ | 23⅛ | 23⅞ | Imperial Oil of Canada | 26,919,871 | N.P. | 62½cSA†‡ | 12-1-36 | 1.25 | 24½ | 19¾ | 22½ | 15⅝ |
| 13⅛ | 7¾ | 2,200 | 13 | 12¼ | 12½ | Indiana Pipe Line | 300,000 | $10 | 20c Spl. | 12-17-36 | .80 | 9¾ | 5½ | 6⅛ | 3⅝ |
| 39½ | 33¾ | 27,000 | 39½ | 37¾ | 38½ | International Petroleum | 14,247,088 | N.P. | $1.25†‡ | 12-1-36 | 2.50 | 39⅝ | 32⅝ | 39¾ | 28 |
| 15¼ | 12⅛ | 16,200 | 13¼ | 12½ | 12⅞ | Louisiana Land & Exp. | 3,000,000 | N.P. | 10cQ | 3-15-37 | .50 | 15⅜ | 9⅞ | 11⅜ | 4⅜ |
| 19½ | 16⅛ | 3,100 | 18⅛ | 17⅜ | 17½ | Lion Oil Refining | 270,000 | N.P. | 25cQ | 12-26-36 | .75 | 17¾ | 7⅜ | 8⅛ | 3½ |
| 14¼ | 11⅝ | 3,100 | 13 | 12⅝ | 12⅝ | Lone Star Gas | 5,382,723 | N.P. | 20c | 4-20-37 | .60 | 14¼ | 9⅞ | 10⅞ | 4½ |
| 7⅞ | 6 | 2,700 | 7⅜ | 7 | 7⅛ | Mountain Producers | 1,682,182 | $10 | 30cSA | 12-21-36 | .60 | 8⅜ | 5 | 5¾ | 4⅛ |
| 19½ | 17½ | 1,900 | 18⅛ | 17⅝ | 17⅝ | National Fuel Gas | 3,810,183 | N.P. | 25cQ | 1-15-37 | 1.00 | 23 | 17⅜ | 20 | 11¾ |
| 11⅞ | 10 | 1,200 | 11¼ | 11 | 11 | National Transit | 500,000 | $12.50 | 35cSA | 12-15-36 | .75 | 15¾ | 9¼ | 10⅝ | 6¾ |
| 6 | 4¾ | 700 | 5¾ | 5½ | 5½ | New Bradford Oil | 1,445,202 | $5 | 15cSA | 4-15-37 | .10 | 4⅝ | 2⅞ | 3¼ | 2 |
| 5 | 3½ | 100 | 3⅝ | 3⅝ | 3⅝ | New Mexico and Arizona | 1,000,000 | $1 | 1c | 12-1-36 | .01 | 6⅝ | 1⅝ | 2½ | 1 |
| 5⅜ | 5⅛ | 200 | 5⅛ | 5 | 5 | New York Transit | 100,000 | $5 | 15cSA | 10-15-36 | .35 | 6¼ | 4¼ | 4⅞ | 3 |
| 9½ | 7½ | 1,400 | 9½ | 9 | 9¼ | Northern Pipe Line | 120,000 | $10 | 35c | 1-2-37 | .40 | 9¾ | 4⅞ | 8 | 5¼ |
| 9⅝ | 6¾ | 34,700 | 7⅜ | 6⅞ | 7 | Pantepec Oil | 1,608,700 | N.P. | .... | ..... | .... | 10⅛ | 3¼ | 4⅜ | 1¼ |
| 13¾ | 9½ | 8,300 | 10⅝ | 9½ | 9½ | Root Petroleum Co. | 336,045 | $1 | 25c | 11-2-36 | .50 | 19¼ | 4½ | 5 | 1½ |
| 6½ | 4¼ | 1,800 | 5 | 4⅝ | 4⅞ | Ryan Consolidated | 296,931 | N.P. | .... | ..... | .... | 4¾ | 1⅞ | 2½ | ⅝ |
| 48 | 44 | 400 | 46¾ | 46 | 46 | South Penn Oil | 1,200,000 | $25 | 60cQ† | 3-29-37 | 2.60 | 44 | 32½ | 34½ | 21⅝ |
| 6⅝ | 5 | 300 | 6⅝ | 6⅜ | 6⅜ | Southern Pipe Line | 100,000 | $10 | 20cSA | 3-1-37 | .25 | 7⅞ | 3¼ | 5 | 3⅞ |
| 42 | 36 | 150 | 40 | 36 | 36 | South West Penna. Pipe Lines | 35,000 | $50 | 50cQ | 4-1-37 | 13.00 | 60 | 44 | 56 | 44¼ |
| 20⅜ | 19⅛ | 4,300 | 19½ | 19⅛ | 19⅛ | Standard Oil of Kentucky | 2,604,790 | $10 | 25cQ | 3-15-37 | 1.35 | 23⅜ | 17⅛ | 24 | 18 |
| 13½ | 11½ | 300 | 13½ | 13 | 13⅜ | Standard Oil of Nebraska | 188,403 | $25 | 25c | 3-29-37 | .25 | 14⅝ | 11 | 12 | 7¾ |
| 43½ | 33¼ | 3,100 | 43½ | 42¼ | 43¼ | Standard Oil of Ohio | 753,740 | $25 | 25cQ | 3-15-37 | 2.00 | 40 | 21¾ | 23⅝ | 11½ |
| 4⅞ | 4 | 15,000 | 4⅞ | 4⅝ | 4⅝ | Sunray Oil | 1,910,748 | $1 | 5c | 4-26-37 | .10 | 5 | 2⅝ | 2⅞ | ⅞ |
| 7⅝ | 6⅛ | 1,700 | 7 | 6⅝ | 6⅞ | Texon Oil & Land | 336,028 | $2 | 15cQ | 3-31-37 | .60 | 9¾ | 5⅜ | 6⅞ | 5 |

*Ex-dividend. †Includes extras. ‡Payable in Canadian funds. §New stock.

Note—In comparing highs and lows for the several years in the two tables, it will be necessary to take into consideration cases where there have been stock split-ups.

# NEW OR IMPROVED EQUIPMENT

## New Application Is Found for "Freflo" Centrifugal Pump

The Worthington Pump & Machinery Corp., Harrison, N. J., has announced the new application of its "Freflo" centrifugal pumps to underpass

drainage. The manufacturer says that the "Freflo" supplies the most economical method, with the exception of gravity feed, of automatically handling waste water, pumping directly from the catch basin. A simple catch-basin or sump and an inexpensive housing are the only additional provisions required. Extra tanks, piping or valves are unnecessary.

These centrifugals are made in capacities of 85 to 7,500 gallons a minute and are extremely simple to operate. The services of an attendant can frequently be dispensed with by equipping the pumps for automatic starting and stopping. The flared suction inlet reduces entrance losses and increases overall efficiency. The free passages through the impeller and casing, and the ball thrust bearing, of ample size to carry the thrust load, all serve to make for a rugged, dependable unit.

## Bulletins, Booklets and Other Literature for the Trade

A 40-page catalog, "Bailey Fluid Meters for Steam, Liquids, Gases," designated as bulletin 301, is being distributed by Bailey Meter Co., Cleveland, Ohio.

A new bulletin, 3600-A1, issued by Fairbanks, Morse & Co., Chicago, describes the construction and application of model 36 diesel power units.

C. J. Tagliabue Manufacturing Co., Park and Nostrand Avenues, Brooklyn, N. Y., is offering a bulletin describing its improved line of self-operating temperature controllers. The company also has ready a catalog of laboratory thermometers and hydrometers.

The value of a trap on drilling rigs for draining the separator in the steam line to drilling engine and slushpump is pointed out in the latest issue of the Armstrong Magazine, published by Armstrong Machine Co., Three Rivers, Mich.

Use of hard-faced valve-seats as a solution of certain gas-engine problems is discussed in the March number of Oxy-Acetylene Tips, published by The Linde Air Products Co., 30 East Forty-second Street, New York.

The Brown Instrument Co., Philadelphia, Pa., has published a new catalog on Brown flow meters, including indicating, recording and integrating (in both electrical and mechanical types), together with Air-o-Line flow and liquid-level controllers.

Catalog No. 50, announced by the John Waldron Corp., New Brunswick, N. J., describes important changes in Francke flexible couplings. These couplings, formerly sold through general sales agents, are now offered direct by John Waldron Corp., owner of the basic patents and manufacturer of the couplings since 1912.

Solenoid-operated valves for automatic and remote control are covered in a 32-page catalog ready for mailing by Automatic Switch Co., 154 Grand Street, New York.

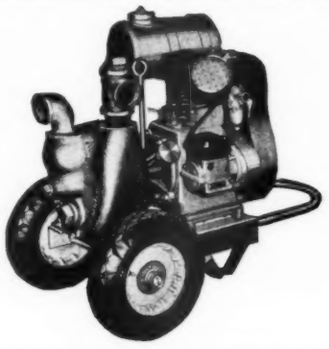
Stratford Development Corp., Dierks Building, Kansas City, Mo., is distributing a bulletin on the Stratco PbS process for sweetening all types of straightrun or cracked sour gasolines.

Among articles in the current issue of the Wheatley Pumper, published by Wheatley Brothers Pump and Valve Manufacturers, Tulsa, is one on the Bergius process of making oil from coal.

The Bridgeport mechanical wire-line spooler is the subject of an illustrated article in the latest issue of the Bridgeport Bulletin, published by Bridgeport Machine Co., Wichita, Kans.

## Sterling Pump Is Adapted for Oil and Wide Utility Use

The Sterling Machinery Corp., Kansas City, Mo., has announced a new pump, designated as model 7M, with a capacity of 7,000 gallons an hour. The pump is equipped with a new Wisconsin single-cylinder air-cooled gasoline engine develop-



ing 2½ to 3 horsepower. This engine, the model AB, has 2½-inch bore and 2¾-inch stroke. This new Sterling pump, equipped with lightweight Wisconsin engine with independent outside high-tension magneto, is an all-round utility pump, with many uses in the oil industry and is especially adapted for contractors' work.

## FRANKS MANUFACTURING CO. PURCHASES PROPERTY

H. H. Franks and Carl White, Jr., of the Franks Manufacturing Corp., have announced the purchase of the Tidal warehouse, machine shops and pipeyard in Tulsa, which they have been operating under lease since the company was established in 1931. Renovation and plant improvement will start immediately.

Although organized at the height of the depression the Franks company took over the Tidal property and switched plant operations to its own products without interruption or lost time for employes. Franks Manufacturing Corp. makes truck-motor-driven and skid-type winches, portable hydraulic drilling units, spudding machines, portable telescopic masts and power takeoffs. Before organization of the company Mr. Franks was for 12 years superintendent and master mechanic of the Tidal shops.

Mr. White was for many years works manager for the Ross Meehan Foundries in Chattanooga, Tenn. He also served as field engineer for the Lucey Manufacturing Co. in that city.

*Carl White, Jr. (left), and H. H. Franks looking at a winch unit, the first type of a long list of drilling and servicing units which they have developed*

## L. W. Stahl Placed in Charge of Emsco's New Department

L. W. (Les) Stahl has joined the Emsco Derrick and Equipment Co., to head a new department for the development of rotary drilling equipment distinctive in design, concerning which announcements are to be made. For the present he is located at the home office of the company in Los Angeles, Calif.

*L. W. STAHL*

Mr. Stahl, a member of the 1913 class in mechanical engineering at the University of California, first joined the National Supply Co. as field engineer. In 1936 he entered the engineering department of the Wilson-Snyder Manufacturing Co. at its Braddock, Pa., plant, to develop its line of slushpumps. With the acquisition of that company by the Oil Well Supply Co. and the subsequent merger of these into a subsidiary of the United States Steel Corp., Mr. Stahl operated as a field engineer, residing in Houston, Tex. Upon the revival of drilling operations in California he was transferred there as California district engineer for Oilwell, which position he held until his affiliation with Emsco.

## Gates Opens Tulsa Offices

The Gates Rubber Co., Denver, Colo., is opening district offices and a warehouse in Tulsa at 608 South Boston Avenue, through which its Vulco rope, hose, and mechanical rubber goods will be distributed, according to T. D. Williamson, who has been named district representative. Mr. Williamson has been a resident of Tulsa since 1915 and is well known in the oil industry. He is a graduate of the University of Arkansas college of engineering, from which he holds bachelor and master degrees. His son, T. D. Williamson, Jr., a recent graduate of the University of Kansas, has joined the Gates staff in Tulsa.

## Here and There With Men Who Manufacture Equipment

Lincoln Electric Co., Cleveland, Ohio, has appointed N. B. Gilliland to the sales engineering staff of its Detroit, Mich., office, 2457 Woodward Avenue.

Herr-Harris Co., Fulton Building, Pittsburgh, Pa., has been appointed to represent George P. Reintjes Co. in the sale of the latter's standardized walls and arches in the Pittsburgh district.

Henry P. Hahn has joined the engineering staff of Crosby Steam Gage & Valve Co., New York. Mr. Hahn was attached for many years to the engineering staff of Crane Co., and for the past five years was chief engineer of the oil and refining department of the Societe Anonyme des Etablissements Jules Cocard, Paris, France.

Al Jones, formerly chief pricing clerk in the Tulsa office of Lucey Products Corp., has been transferred to Hutchinson, Kans., as store salesman. J. H. Bond, formerly store salesman, has been advanced to field salesman in the Hutchinson territory.

Manly B. Brown has been appointed assistant manager of sales, pipe division of Republic Steel Corp., and will devote his efforts to oil-country tubular goods.

## Machine for Testing Regulator Is Put on Market by Emco

When repairs to service regulators are required many companies prefer to remove the regulator from service for a general reconditioning in the shop. To provide a simple and convenient method for testing regulators of this type, both as received and after repairs have been made, the Pittsburgh Equitable Meter Co. has developed the Emco testing machine. It has features which permit quick and effective testing and adjusting following a recommended test procedure.

This unit is made to accommodate regulator sizes from three-quarters inch to 1½-inch inclusive by merely changing adaptors and guides. Either air or gas can be used for making the tests. All the necessary gauges for indicating inlet and outlet pressures are included. Construction is such that the regulator can be placed in position quickly, clamped securely, tested, and quickly removed. A simple test method may be employed using calibrated orifices to obtain two test flow rates. If more extensive tests are desired, an Emco indicating flow meter can be installed in the outlet line to read all flow rates.

The test unit is compact, but made to withstand heavy-duty service. It can be readily installed by bolting to a convenient bench and connecting an air- or gas-line to the inlet connection.

## Strength and Compactness Are Built Into Globe Roller Bit

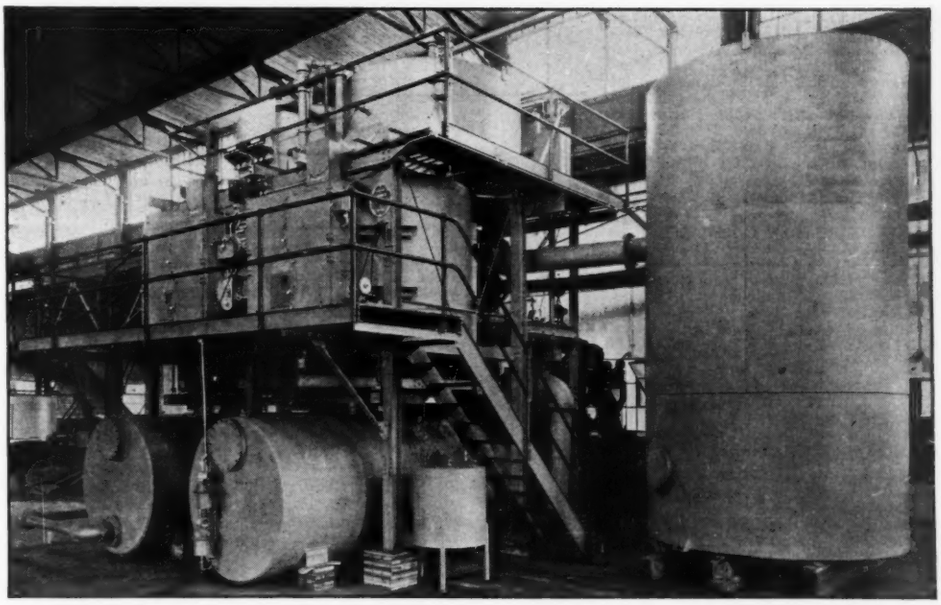
The Globe type H roller bit, announced by Globe Oil Tools Co., Los Nietos, Calif., features strength and compactness. The conventional "floating" yoke has been done away with by making the inner supports on the gauge cutters integral with the body, and by fastening the center support for the inside cutters directly into the bit body by a threaded member. Thus, instead of all of the load

on the cutters being carried by the four outside fingers only, each of the inside, as well as the outside members contributes its share to the support of the cutter load, giving a stronger and more rigid assembly.

Another feature of the new Globe roller bit is the method of mounting the cutters on double ball races in such a way that each cutter will carry heavy thrust loads from either direction instead of just one. This adds to the life of the bit by keeping the cutters in proper alignment under severe usage. The cutters are generously hard-faced and are shaped to cut a high center in the bottom of the hole, thus guiding the bit.

## LARGEST AUTOMATIC LIQUID WEIGHING SCALE

The Richardson Scale Co., Clifton, N. J., recently delivered the world's largest automatic liquid weighing scale to the Cuban government. This scale, which will be used for weighing cargoes of oil and gasoline, will provide a basis for the levying of all import duties by the government.



The scale weighs 27,500 pounds of gasoline or oil each minute. Tests made at the time the scale was formally accepted by the Cuban government revealed that the scale registered an error of less than 1/900 of 1 per cent. The contract guaranty required a limit of only one-tenth of 1 per cent.

An important feature of the accurate operation of the scale depends upon the oilproof character and flexibility of vital rubber parts, such as the valve-seat discs, and 12-inch hose. These conditions were successfully met through use of valve-seat discs and 12-inch hose manufactured of "Thiokol" by Manhattan Rubber Manufacturing division of Raybestos-Manhattan, Inc., Passaic, N. J.

## Oil Man's Calendar

### March

12—Oklahoma City, Okla., Interstate Oil Compact Commission meeting.

15-19—Philadelphia, Pa., National Oil Burner & Air Conditioning exposition and convention, Convention Hall, Commercial Museum.

17—Wewoka, Okla., Fourteenth Annual Oil Jubilee.

17-19—Los Angeles, Calif., A.A.P.G. annual meeting.

22-24—Louisville, Ky., Kentucky Petroleum Marketers Association, Brown Hotel.

23—New York, Oil Trades Association of New York.

### April

1-2—Dallas, Tex., American Petroleum Institute, Southwestern District, Division of Production, Baker Hotel.

7-8—Boston, Mass., Oil Men's Association of New England, thirteenth annual convention, Copley Plaza Hotel.

7-9—Birmingham, Ala., American Institute of Mining and Metallurgical Engineers, Open Hearth Conference.

8-10—Shreveport, La., Petroleum Industry Electrical Association.

13—Los Angeles, Calif., American Petroleum Institute, Division of Production, Pacific Coast district, Biltmore Hotel.

15-16—Cleveland, Ohio, 34th semiannual meeting National Petroleum Association, Cleveland Hotel.

26-28—Hot Springs, Ark., Western Petroleum Refiners Association, annual meeting, Arlington Hotel.

### May

4-9—White Sulphur Springs, W. Va., Society of Automotive Engineers, summer meeting, Greenbrier Hotel.

6-7—Columbus, Ohio, American Petroleum Institute, Division of Production, Eastern district, Deshler-Wallick Hotel.

10—Kansas City, Mo., Spring meeting Natural Gas Department, American Gas Association.

19-21—Tulsa, Natural Gasoline Association of America, annual meeting, Hotel Tulsa.

23-27—Pittsburgh, Pa., National Association of Purchasing Agents (Oil Company Buyers' Group) annual convention, William Penn Hotel.

### June

1-3—Colorado Springs, Colo., American Petroleum Institute, mid-year meeting, Broadmoor Hotel.

7—Kansas City, Mo., Oil Field, Gas Well-Refinery Workers of America.

10-12—Pennsylvania Grade Crude Oil Association, annual meeting, on Great Lakes S.S. "Seeandbee," sailing from Buffalo, N. Y.

11—Santa Fe, N. M., Interstate Oil Compact Commission meeting.

14-19—Paris, France, Second World Petroleum Congress, during International Exposition.

25-26—Dallas, Tex. National Oil Scouts Association, annual meeting, Baker Hotel.

### September

(?)—San Francisco, Calif., North American Gasoline Tax Conference.

27—Cleveland, Ohio, American Gas Association, nineteenth annual convention.

### October

11-16—Houston, Tex., Oil-World Exposition.

### November

9-12—Chicago, American Petroleum Institute, eighteenth annual meeting, Stevens Hotel.

# CLASSIFIED ADVERTISING

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Instructions "How to Establish Your Rights" and complete information FREE!
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Includes all of following states: Texas, Louisiana, Mississippi, Arkansas, Oklahoma, Kansas, also Eastern New Mexico. Shows all oilfields by name and location. Alphabetically arranged list on margin of all discoveries these States during 1936. Lithographed. Size 3 x 4 ft. $1. Same map with pipe lines to date, white print with blue lines $7.50. Send for illustrated catalog describing over 400 ownership and field maps in Texas and Louisiana.
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PRODUCING OIL ROYALTIES
for dealers
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842 Kennedy Bldg., Tulsa, Okla.

Will Sell Acres or Royalties within Major lease boundaries, Texas Gulf Coast. Other lands with potential oil values. F. J. Winter, 379 Clarkson, Denver, Colorado.

ROYALTIES PURCHASING TRUST, LTD., Moorgate Hall, Moorgate, London, E. C. 2., England, are buyers of producing oil royalties.

PRODUCING ROYALTIES
WANTED
We are in the market for good producing royalties. Submit complete information and map of what you have to offer in first letter.
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PRODUCING OIL ROYALTIES
15 years of experience
L. H. WITWER
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Oil Royalties and Oil and Gas Leases Bought and Sold
Want: Well located West Texas drilling block.
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### Oil Industry Printing

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Leases, assignments, releases, township plat books, well records, etc. Request on your letterhead gets free catalog. Olds Press, 215 East Third St., Tulsa, Okla.

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|---|---|---|---|
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We reserve the right to withhold all advertising of questionable character. To avoid delay be sure to send remittance with copy. We will set your ad in the smallest amount of space possible and refund all overpayments. One-time insertions will not be run until fully paid. Forms close MONDAY NOON before each issue date.

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Tulsa, Oklahoma

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# CLASSIFIED ADVERTISING

For Sale—Equipment For Sale—Equipment For Sale—Equipment For Sale—Equipment

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From 5,000 barrel to 80,000 barrel inclusive. Wood roof tanks preferred.
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SEVERAL USED ROTARY RIGS
Spudders and Drilling Machines.
Several Steel Derricks & Rotary Equip.
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WELDERS A.C. and D.C. electric motor and engine driven. Reconditioned. Service Co., 3732 Cedar Ave., Cleveland, Ohio.

For Sale—Reconditioned No. 30 Star Drilling Machine with motor and spudding attachment. Herman Goff, Route 4, Arkansas City, Kans.

FOR SALE: At low prices at our Seminole warehouse, large stock of used cable tools. No wire lines. I. T. I. O., Bartlesville, Oklahoma.

FOR SALE: Five service stations and storage plant, wholesale and retail on U. S. highways going through Pueblo. Further information write J. L. Kimble, 326 W. 8th St., Pueblo, Colorado.

FOR SALE: 3 Standard Rigs, 84' derrick, 6" irons with or without tools. Chicago delivery and inspection. William H. Cater, 2643 W. Monroe St., Chicago, Ill.

25 K.W. and 40 K.W. Gas Engines, 220 volts, D.C. Two 100 K.W. Gas Engine-Generator Sets, 220 volts, D.C. 7x6 Ingersoll-Rand ER-1 Air compressor, Six-inch Oster Pipe Threading Machine. Also large stock of lathes, pipe machines, milling machines, etc. Send for our list.
Terms to suit.
CINCINNATI MACHINERY & SUPPLY CO.
26 West 2nd St. Cincinnati, Ohio

FOR SALE: 200—4½" OD x 1" x 6" x 38" and 44" wing type used anchor clamps. I. T. I. O. Company, Bartlesville, Oklahoma.

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1 in. dia. 6 x 19, plow steel, hemp center 100,000 ft. Lengths run, 1500', 1600', 2300', 2500' each reel.
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Sell entire lot or single reels. All cables are BRAND NEW, NEVER USED. American Mfg.
Very low prices.

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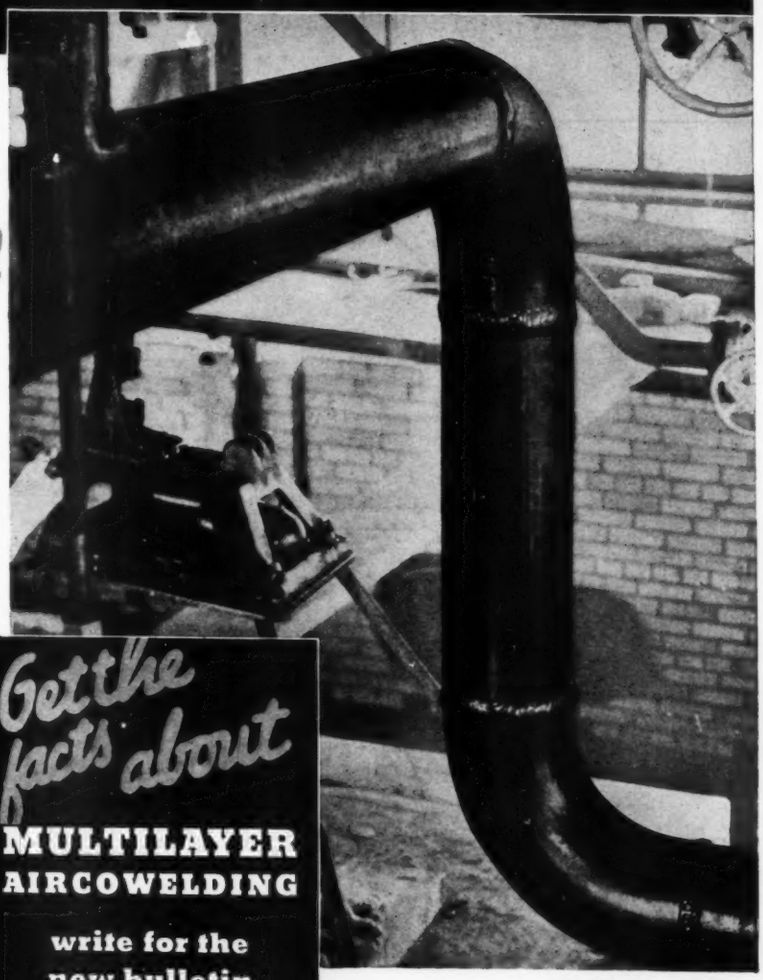

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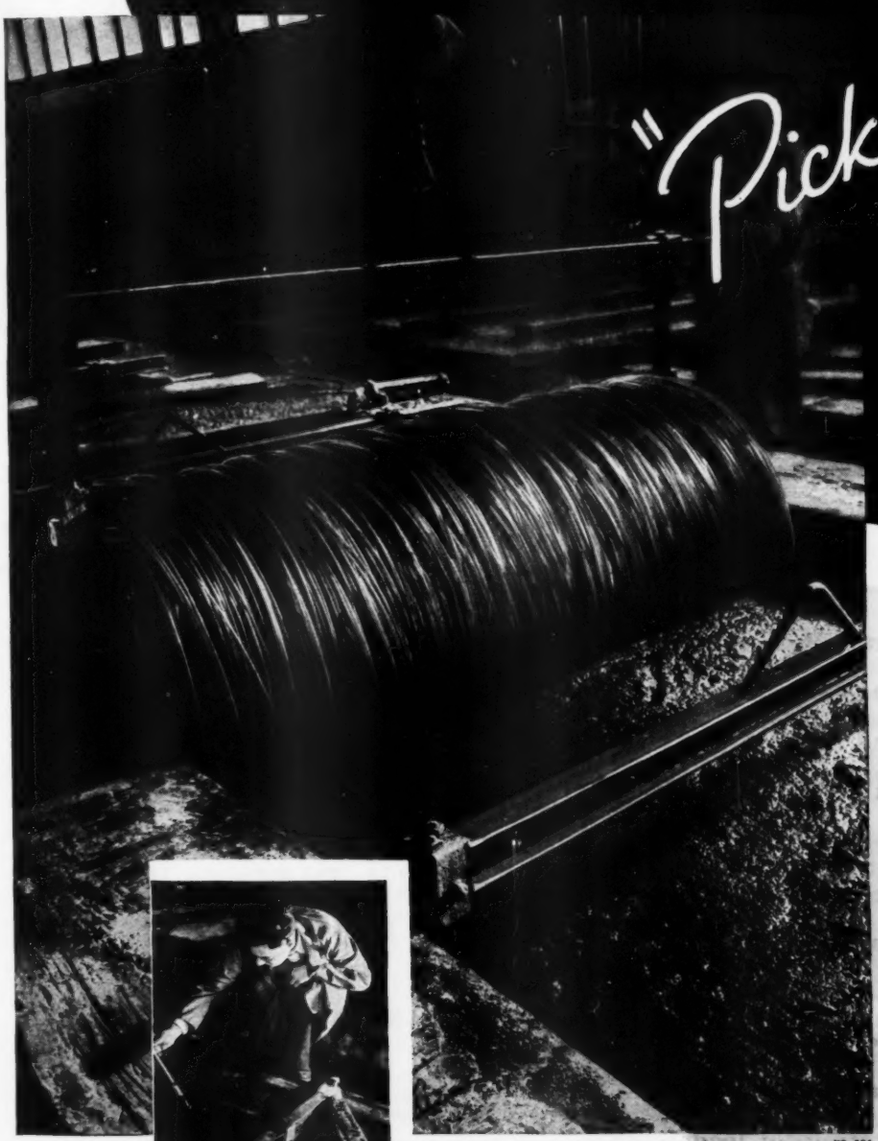

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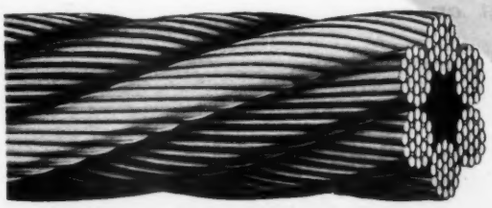

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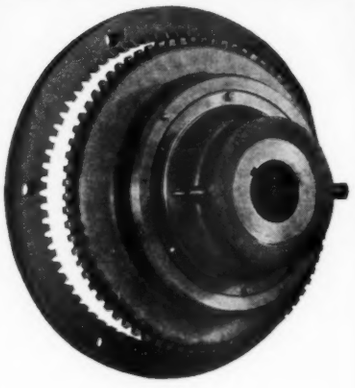

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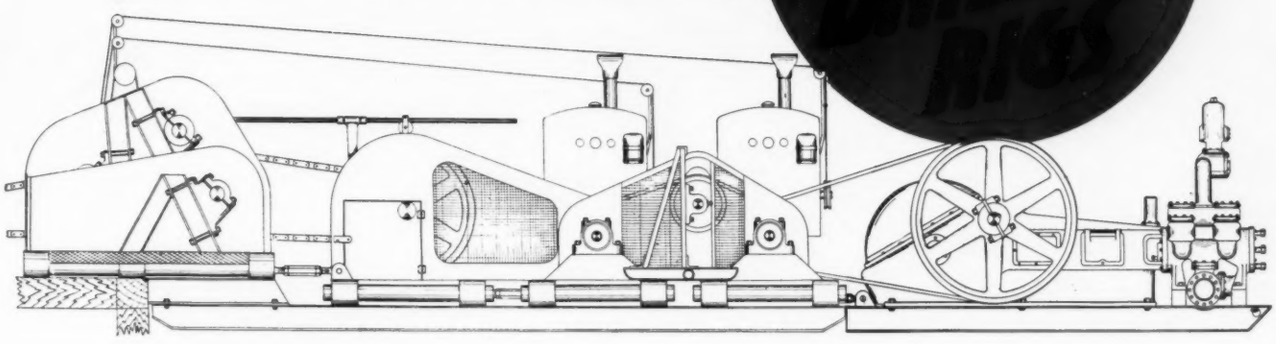

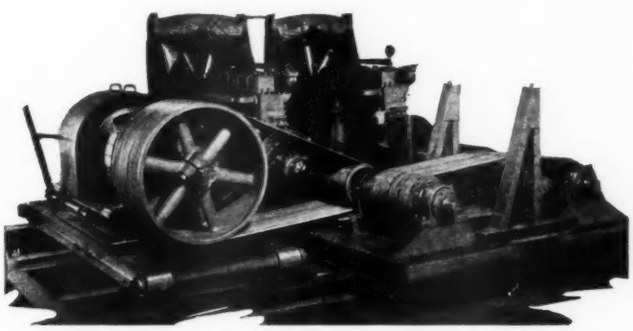

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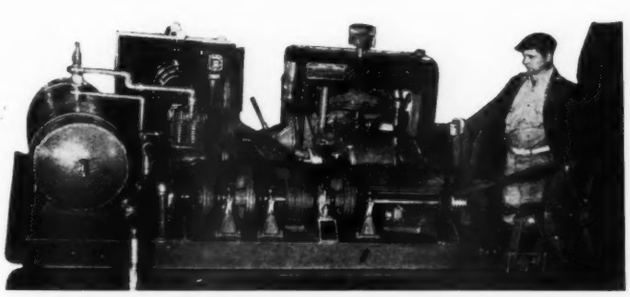

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## REDUCE DRILLING COSTS —ADD TO OPERATING PROFITS

Powered with internal combustion engines of suitable size and type, the fuel cost of the prime mover is lowered up to 75% or more; little water, other than that used in the hole, is required; moving costs are substantially reduced; rigging-up time, in so far as the power equipment is concerned, is reduced to a matter of hours; and maintenance costs are lowered.

These substantial savings are effected without sacrificing drilling and hoisting time, and with no material increase in the first cost of the complete drilling equipment.

**For the complete story of Bridgeport Mechanical Rotary Drilling Rig Economy, ask for Bulletin No. 60**

*Three sizes of rigs, for a wide range of duties, carried in stock ready for quick delivery anywhere.*

**BRIDGEPORT**
**MACHINE COMPANY**
**MANUFACTURERS DISTRIBUTORS**
OIL DRILLING-FISHING AND PRODUCTION EQUIPMENT
GENERAL OFFICE AND WORKS: WICHITA, KANSAS
Eastern and Export Office: 30 Rockefeller Plaza, New York

**HOUSTON . DALLAS . SAN ANTONIO . CORPUS CHRISTI . SHREVEPORT . ODESSA**
**TULSA . OKLAHOMA CITY . WICHITA . NEW YORK CITY . AND BRANCH STORES**

# Germ Processed Circol--Circulating Oil with a Patented Difference

Conoco Germ Processed Circol is different from all other circulating oils, because it is made by Continental's famous patented Germ Process. Like any good circulating oil, it resists contamination, and separates readily from water and impurities. Germ Processing, however, gives it an entirely extra ability to reduce wear and operating costs to the lowest point. 1. Germ Processed Circol has greater load-carrying ability. 2. It bonds itself directly to cylinder and bearing surfaces, forming a thin but extremely tenacious *Oil-Plating*. This permits great reductions in the amount of lubricant fed to working surfaces. Conoco Germ Processed Circol is recommended for lubrication of gas compressor cylinders (dry natural gas)—low and medium speed vertical gas engines—single-acting horizontal gas engines—compressor or general service type gas engines—reciprocating and centrifugal pump bearings. A trial will show you the superiority of Conoco Germ Processed Circol.

CONOCO

CONOCO

*Oil Field*

LUBRICANTS

CONTINENTAL OIL COMPANY

CONOCO LUBRICANTS IN STOCK AT THESE POINTS:

**CALIFORNIA**
Los Angeles

**COLORADO**
Craig
Denver
Ft. Collins
Ft. Morgan
Pueblo

**KANSAS**
Arkansas City
Chanute
Eldorado
Herington
Hutchinson
Independence
Marion
Oxford
Russell
Wichita
Winfield

**KENTUCKY**
Owensboro

**LOUISIANA**
Lake Charles

**MONTANA**
Billings
Cut Bank
Great Falls
Lewistown
Shelby
Winnett

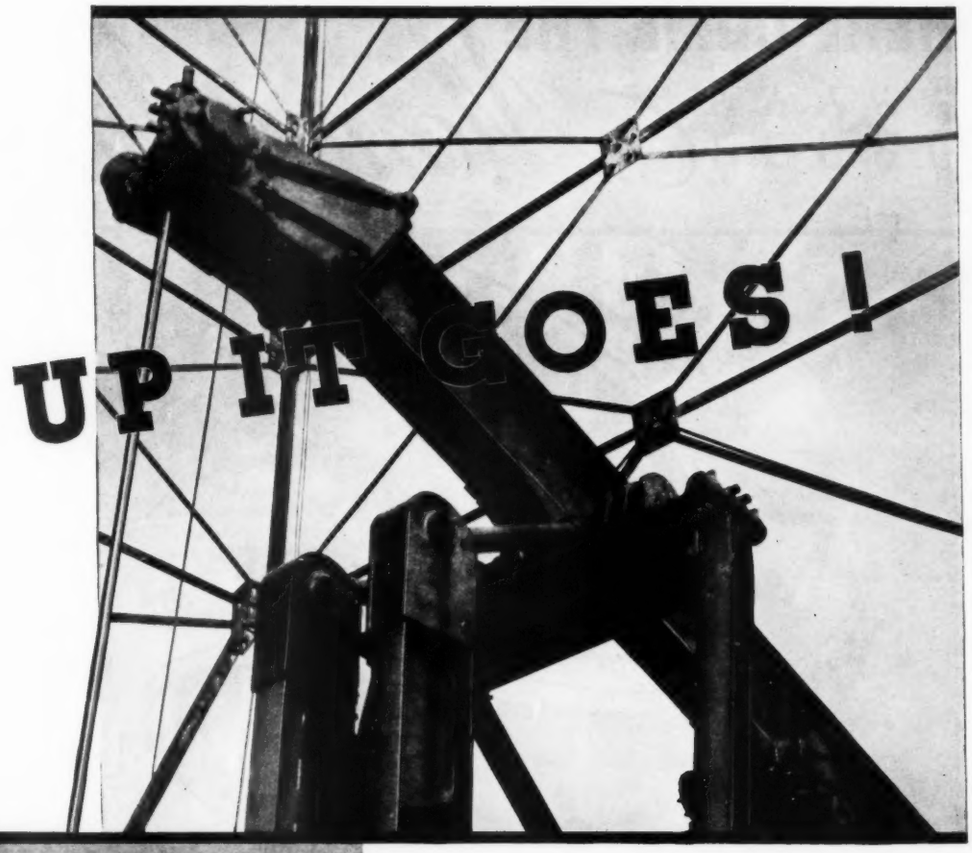
**NEW MEXICO**
Artesia
Farmington
Gallup
Hobbs

**OKLAHOMA**
Ada
Altus
Ardmore
Bartlesville
Chickasha
Duncan
Edmond
Enid
Guthrie
Muskogee
Oklahoma City
Okmulgee
Ponca City
Seminole
Tulsa

**TEXAS**
Amarillo
Beaumont
Big Spring
Borger
Breckenridge
Brownwood
Corpus Christi
Corsicana
Dallas
Fort Worth
Galveston
Houston
Longview
Marshall
McCamey
Mexia
Midland
Mineral Wells
Pampa
San Antonio
Tyler
Wichita Falls

**UTAH**
Salt Lake City

**WYOMING**
Casper
Glenrock
Greybull
Lovell
Lusk
Medicine Bow
Rawlins
Thermopolis
Worland




# PARKERSBURG *Long Stroke* PUMPING UNITS

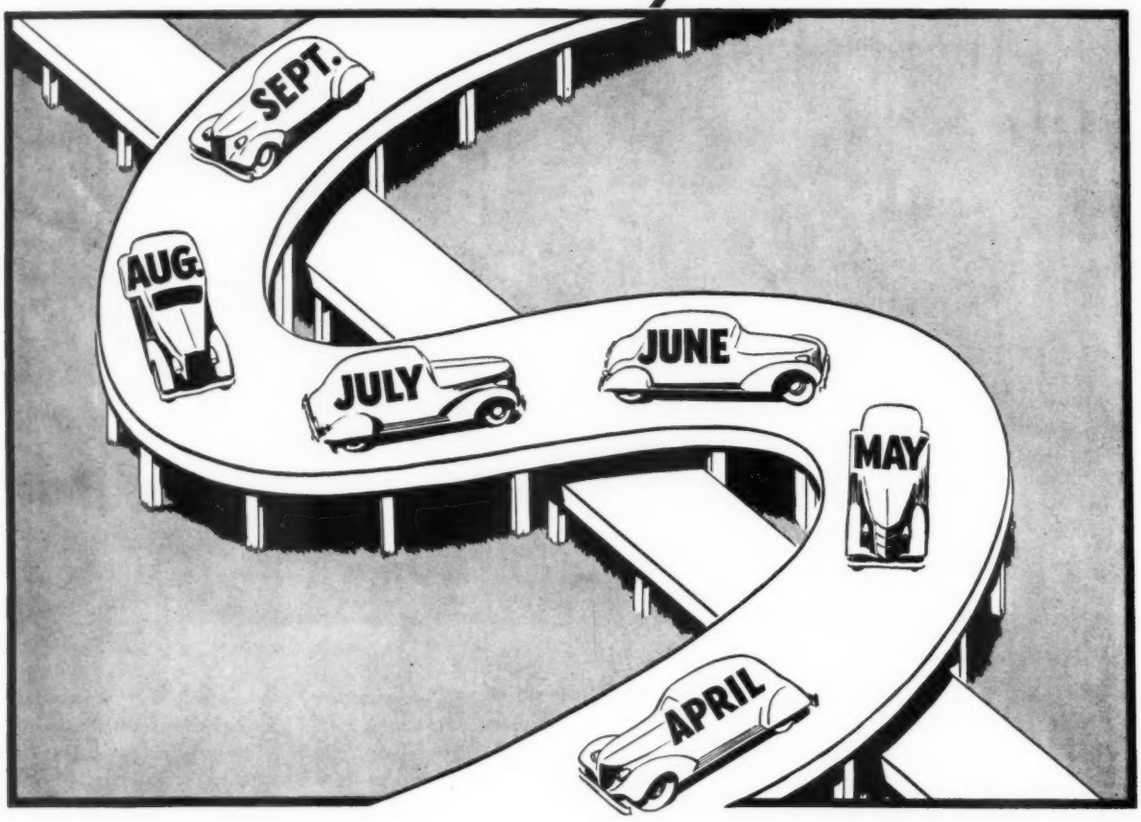
THE PARKERSBURG RIG & REEL CO.
Parkersburg, West Va.
HOUSTON • DALLAS • TULSA • LOS ANGELES • NEW YORK
Branches In All Active Fields

● One after another, with clock-like regularity, reports are coming in of increased production with Parkersburg Long Stroke Pumping Units. One of the more recent reports tells a story that should make *any* operator stop, look and investigate before buying new pumping equipment.

On this particular well the operator installed a Long Stroke Pumping Unit and production of gas and oil went up to the tune of $700.00 per month. Gas increased from 4,000′ to 47,000′ per day and the net increase in oil production amounted to 38 barrels per day. Moreover there will be another nice profit in the savings due to less down time and fewer rod jobs. Is it any wonder that operators are so enthusiastic about their Parkersburg Long Stroke Pumping Units?

Perhaps *you* are passing up a chance to increase your production. If you are it's money out of your *own* pocket and deserves attention *now*. Begin by calling your nearest Parkersburg representative. He will be glad to give you full details.

# HERE COME THE $$$$$ *Money Months*




IT won't be long now until your best selling months are here again.

And why not make these months mean real money this year with an Emblem Pennsylvania Oil? We needn't tell you about the natural *demand* for an Emblem Pennsylvania oil. Everybody in the oil business knows that these oils are first in public favor. And the Pennsylvania Oil customer is the best prospect in the world for other sales, too, because he knows quality when he sees it—and sees that he gets it.

*More cars running in 1937 than ever before;*
*Our usual powerful National Advertising;*
*The quality leadership of our emblem;*

Three Mighty Good Reasons for Selling an Emblem-Protected Pennsylvania Motor Oil.

PENNSYLVANIA GRADE CRUDE OIL ASSOCIATION
OIL CITY, PENNSYLVANIA

MEMBER OF PENNSYLVANIA GRADE
Guaranteed
100% PURE
PENNSYLVANIA
OIL
CRUDE OIL ASSOCIATION
PERMIT NUMBER.....
Made from the highest grade crude oil in the world

*Better Oils*
**from the**
**GROUND UP!**

**FREE!** *A new book of vital importance to you. The full story of our association and our emblem. This book available to members for distribution, with member's imprint, at exceptionally low cost. Write us for particulars.*

NAME.....
ADDRESS.....
CITY..... STATE.....

OGJ-3-18

# MID-CONTINENT DRILLED 52% of NATION'S WELLS in 1936

*All percentages given in this advertisement were computed from figures appearing in Annual Review Issue, The Oil and Gas Journal, January 28, 1937.*

# Equipment Purchases LARGELY CONTROLLED FROM TULSA

The oil fields of the United States completed 25,888 wells in 1936. Of this total, 25% were drilled in the Central and Eastern fields, 23% were drilled in the California, Rocky Mountain and Gulf Coast fields, while 52%, or more than half of the nation's wells, were drilled in the Mid-Continent. This percentage represents 13,522 wells.

To drill these 13,522 wells and to prepare them for production required millions of dollars worth of equipment. The bulk of these huge equipment purchases were made at Tulsa, headquarters city for the Oil Industry in the Mid-Continent area.

The Mid-Continent established other remarkable records in connection with the year's drilling operations. For example, its new wells accounted for 74% of the nation's initial production for the year. Furthermore, 72% of the nation's new estimated oil reserves for 1936 were allocated to the Mid-Continent area.

Manufacturers and distributors of oil field, pipe line and refinery equipment will find it profitable to maintain permanent representation at Tulsa, as here is concentrated the greatest purchasing power of the entire Oil Industry. Tulsa is now headquarters for more than 400 oil companies operating in the Mid-Continent, Gulf Coast and Rocky Mountain areas. 54 leading drilling contractors operating in these same areas have their headquarters here. Two-thirds of the nation's natural gasoline production is controlled from Tulsa business offices.

The Tulsa Chamber of Commerce will gladly prepare detailed reports for firms considering Tulsa as a location for a branch office, warehouse, or manufacturing plant. Address all inquiries to the Tulsa Chamber of Commerce.

**1938 INTERNATIONAL PETROLEUM EXPOSITION TULSA MAY 14-21**

# TULSA

*Oil Capital of the World*

**NAPHTHAS · FUEL OILS · DIESELINE**

**KEROSENE · GASOLINE · INDUSTRIAL**

**AUTOMOBILE LUBRICANTS**

**BRIGHT STOCKS**

*Nine strategically located* **SHELL** *Refineries*

**CALIFORNIA**

COALINGA, DOMINGUEZ, MARTINEZ, WILMINGTON

**GULF COAST**

HOUSTON, TEXAS; NORCO, LA.

**MID-CONTINENT**

EAST CHICAGO, IND.; WOOD RIVER, ILL.; ARKANSAS CITY, KANSAS

# *Built for WORK-Designed for ECONOMY Stream-styled AHEAD of the field*

Straight through the advanced 1937 line . . . in every capacity range . . . and in standard and "cab-over-engine" models . . . GMC trucks have the ability to *work* hard and the capacity for long-continued low cost operation which you should expect from trucks built by the world's largest builder of commercial vehicles exclusively. . . . Stream-styling—with GMC's exclusive "dual-tone" color design—gives these trucks a modern, capable appearance shared by no others. . . . If your business needs trucks which are truck-built for hard work—designed and constructed for peak economy—and styled to reflect credit upon your operations—inspect, compare, test and then buy GMC!

QUALITY AT PRICES LOWER THAN AVERAGE

*Time payments through our own Y. M. A. C. Plan at lowest available rates*

## GENERAL MOTORS TRUCKS & TRAILERS

GENERAL MOTORS TRUCK & COACH
DIVISION OF
YELLOW TRUCK & COACH MANUFACTURING COMPANY, PONTIAC, MICHIGAN

# M.I.W. STEEL DERRICKS

*a thing of BEAUTY and..* .... *a PRACTICAL JOY to DRILLERS*

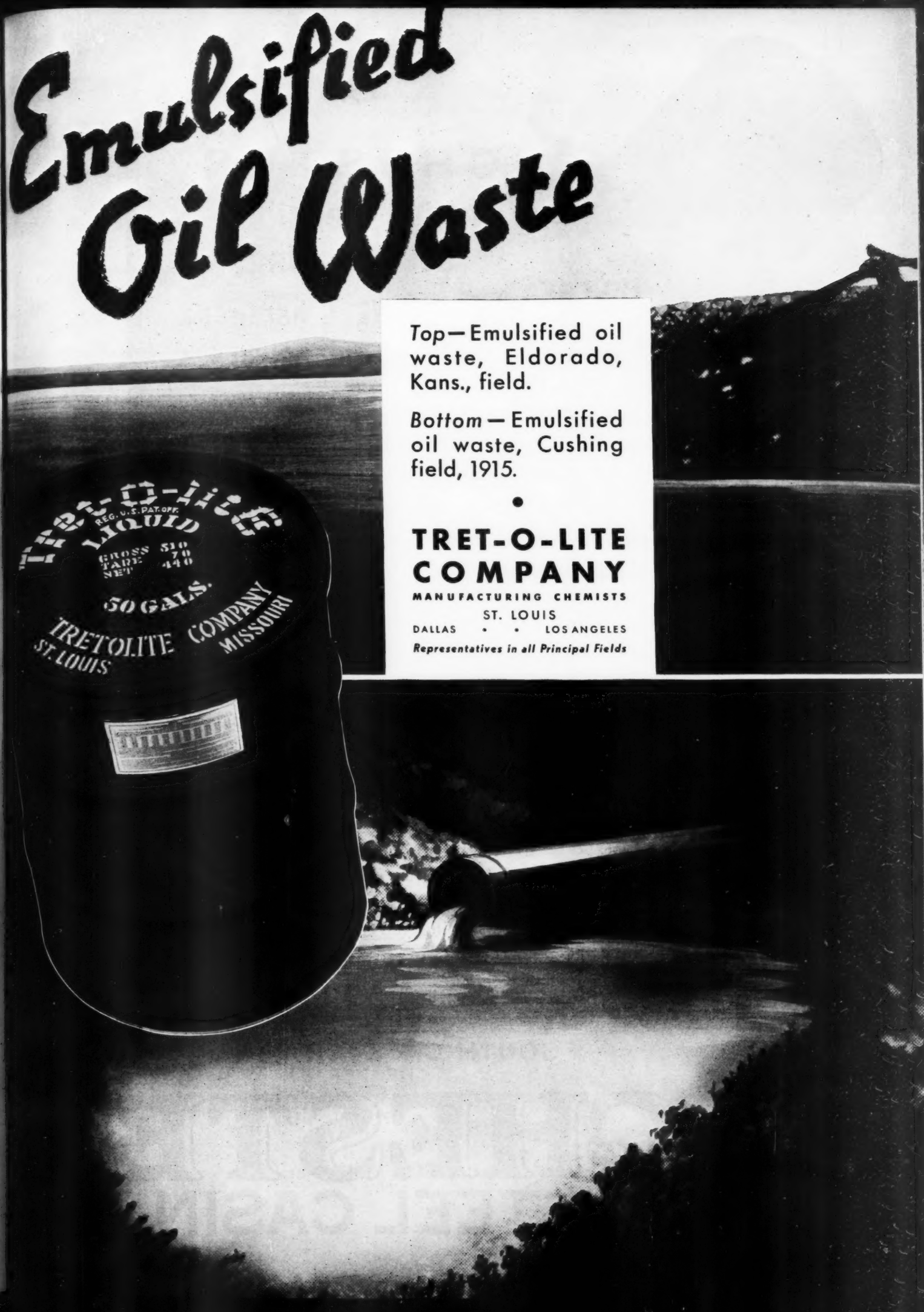
122-ft., 537,000 lb. capacity galvanized MIW derrick on a 7-ft. galvanized MIW sub-structure, being used on the Gulf Coast.

# MUSKOGEE IRON WORKS

STEEL DERRICKS SUBSTRUCTURES MIW ENGINE BASES FRAMING SILLS
RIG FRONTS SKID-TYPE HOISTS

1802 Esperson Bldg. Houston, Texas
Gulf States Bldg. Dallas, Texas
Main Office and Plant Muskogee, Oklahoma
Thompson Bldg. Tulsa, Oklahoma
Kilgore, Texas

# Emulsified Oil Waste




*Top*—Emulsified oil waste, Eldorado, Kans., field.

*Bottom*—Emulsified oil waste, Cushing field, 1915.

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**TRET-O-LITE COMPANY**

MANUFACTURING CHEMISTS

ST. LOUIS

DALLAS • • LOS ANGELES

*Representatives in all Principal Fields*

# CHESTER
## High Tensile Steel Casing
## has a BRINELL hardness of 140 minimum

The Brinell test is but part of the extensive and rigid examination to which Chester High Tensile Steel Casing must be subjected before it leaves the plant.

Because of these exact tests—and because of the successful performance of thousands of *strings* now in use—we can assure prospective users that Chester casing will stand up to the toughest service. We can promise new freedom from damaged threads in handling—and an almost complete elimination of burnt thread in making up.

When you specify Chester High Tensile Steel Casing, you can expect a steel casing that will fill *all* your requirements —with room to spare.

*District Sales Managers*

W. E. Gibson, 801 Columbia Bank Bldg., Pittsburgh, Pa.
J. P. Cooney, 715-716 A. G. Bartlett Bldg., Los Angeles, Calif.
J. P. Steele, Petroleum Bldg., Fort Worth, Texas.

*District Offices*

South Chester Tube Co., 1708 Hudson Terminal Bldg., 30 Church St., New York, N. Y.
J. D. Swartz, Beacon Bldg., Tulsa, Okla.
E. L. Moseley, 2218 Mills St., Houston. Texas.

*District Warehouses*

Houston, Texas; Thenard, Calif.; San Francisco, Calif.

*Distributors*

Western Supply Co., Tulsa, Okla., and Branches.
International Supply Co., Tulsa, Okla., and Branches.
Dunigan Tool and Supply Co., Breckenridge, Texas, and Branches.
Bridgeport Machine Co., Wichita, Kansas, and Branches.
Producers Supply and Tool Co., Marietta, Ohio; Fort Worth, Texas, and Branches.
Louisiana Supply Co., Sulphur and Brimstone, La.
Oil Field Equipment Co., San Antonio, Texas.
Industrial Supply Co., Inc., Wichita Falls, Texas, and Branches.
Okmulgee Supply Corp., Okmulgee, Okla., and Branches.
Stephen H. McCabe, 508 4th St., San Francisco, Calif.
Viking Automatic Sprinkler Co., 114 Sansome Street, San Francisco, Calif.
Herley Supply Co., 3006 Cherry Ave., Long Beach, Calif.
Barde Steel Co., Seattle, Wash., and Portland, Ore.
Star Drilling Machine Co., 550 Clinton St., Portland, Ore., and Akron, Ohio.
The Atha Supply Co., Zanesville, Ohio, and Mt. Pleasant, Mich.
United Pipe & Supply Corp., Charleston, W. Va., and Branches.
Bovaird & Co., Bradford, Pa.
Kane Supply Co., Kane, Pa., and Branches.
Prichard Supply Co., Mannington, W. Va., and Branches.

**SOUTH CHESTER TUBE CO.**
**CHESTER, PA.**

# CHESTER
# STEEL CASING

now . . .

# Textiles

*are*

*preshrunk*

now . . .

# Wire rope *is preformed!*

● The preforming of wire rope is the same type of basic improvement as the sanforizing of textiles. Preforming means that each wire and strand in wire rope is molded or shaped (*in advance*) to the exact helical curve each must assume in the completed rope.

Preforming tends to reduce internal stress or strain. And *that* is the reason why preformed wire rope lasts so much longer, gives so much better service.

There are at least a dozen ways in which preformed wire rope is superior. Ask us to send you a sample of preformed wire rope. Learn all the facts about its true superiority. For many wire rope applications, preformed rope will give you much greater dollar value.

PREFORMED

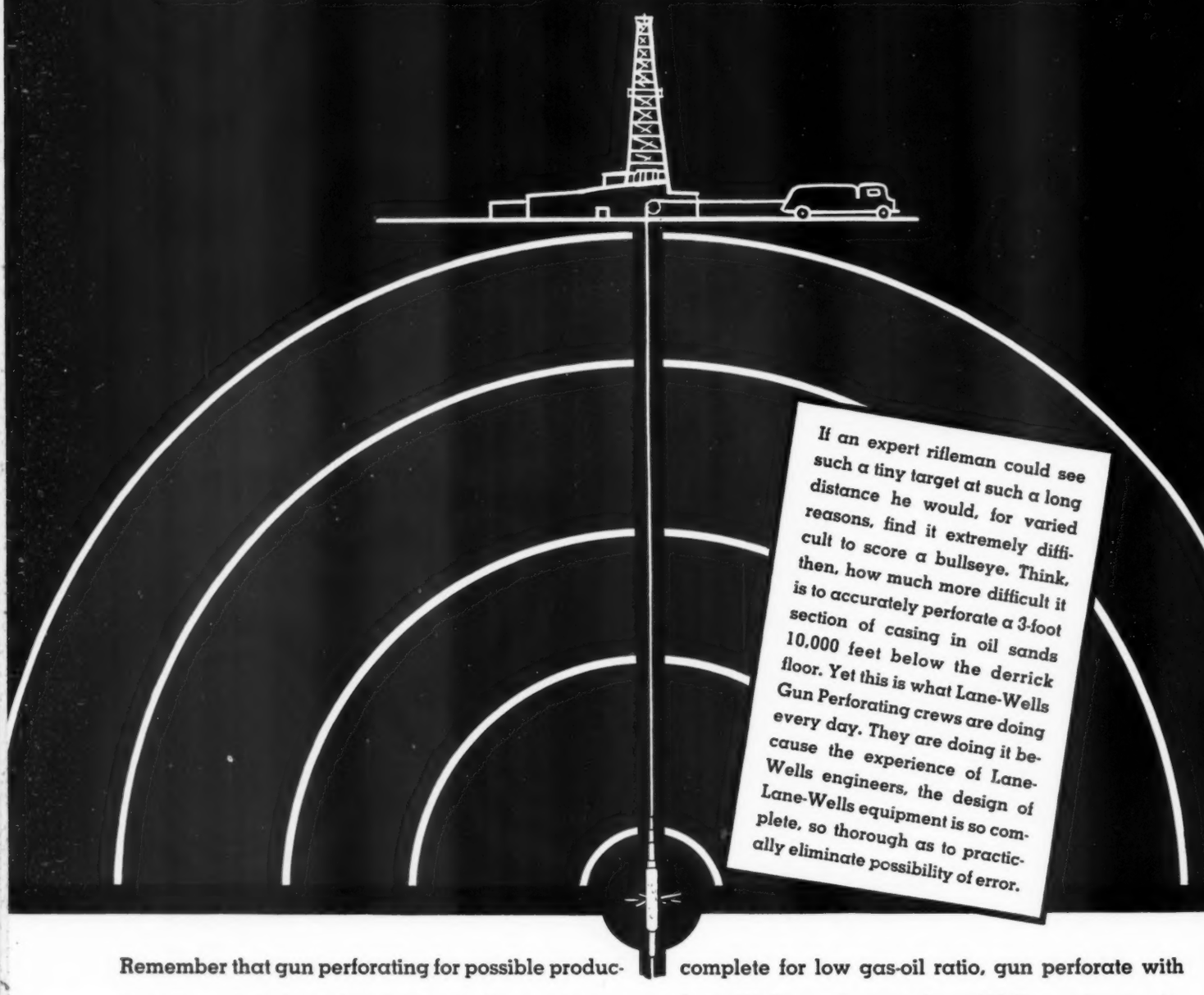
NON-PREFORMED

LICENSEES UNDER PREFORMED WIRE ROPE PATENTS
Educational Bureau • 520 North Michigan Avenue • Chicago, Illinois

## *Preformed* WIRE ROPE

***for SAFETY · ECONOMY · EFFICIENCY***

# HITTING A 3-FOOT BULLSEYE AT 2 MILES (UNDERGROUND)



If an expert rifleman could see such a tiny target at such a long distance he would, for varied reasons, find it extremely difficult to score a bullseye. Think, then, how much more difficult it is to accurately perforate a 3-foot section of casing in oil sands 10,000 feet below the derrick floor. Yet this is what Lane-Wells Gun Perforating crews are doing every day. They are doing it because the experience of Lane-Wells engineers, the design of Lane-Wells equipment is so complete, so thorough as to practically eliminate possibility of error.

Remember that gun perforating for possible producing oil sands before abandoning wells is only one of the many successful applications for Lane-Wells Gun Perforators. Blank liners may be cemented in new walls and then gun perforated selectively. For efficient cement "squeeze" jobs, to test for water shutoff, to make better channels for acid treatment, to complete for low gas-oil ratio, gun perforate with Lane-Wells equipment. Lane-Wells engineers developed the gun perforator and the fool-proof method for handling it. Lane-Wells service crews have successfully perforated nearly 7,000 wells for 1,000 satisfied customers. There must be a reason for such successful operation.

Lane-Wells ... afford positive ... trol by operator ... the ability to ... lutely seal ... any well ... and remove ... less of the ... time set. Fu... tected by ... States Patents.

*Note devices used and method of operation are fully protected by U. S. Patents No. 1,582,184, issued April 27, 1926, and other U. S. and Foreign Patents Pending.*

**OTHER LANE-WELLS PRODUCTS INCLUDE:**

Liner Hangers
Multiple Ring Packers
Pressure Packing Glands
Strata-graph Service

**THE LANE-WELLS CO.**

*Gun Perforator Service*

HOUSTON, TEXAS
1315 Palmer Street

OKLAHOMA CITY
1321 So. Walker

TULSA, OKLAHOMA, Philcade Building

NEW YORK CITY, 420 Lexington Ave.